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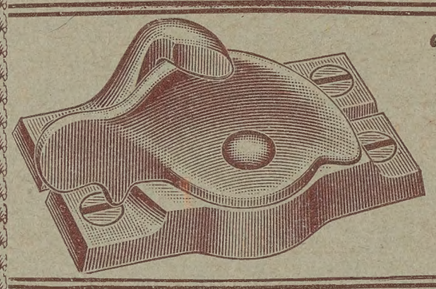

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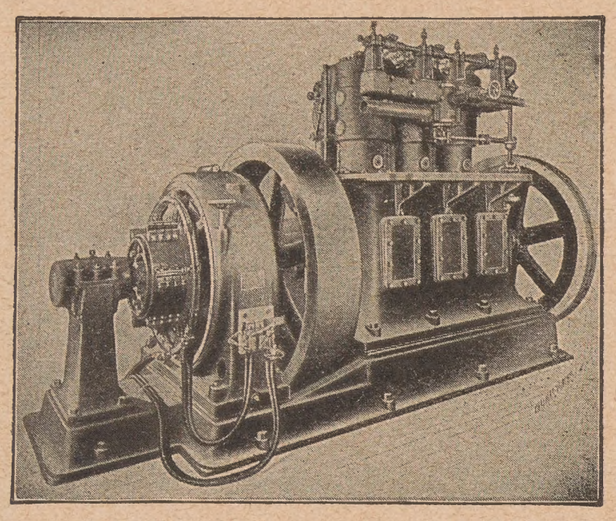

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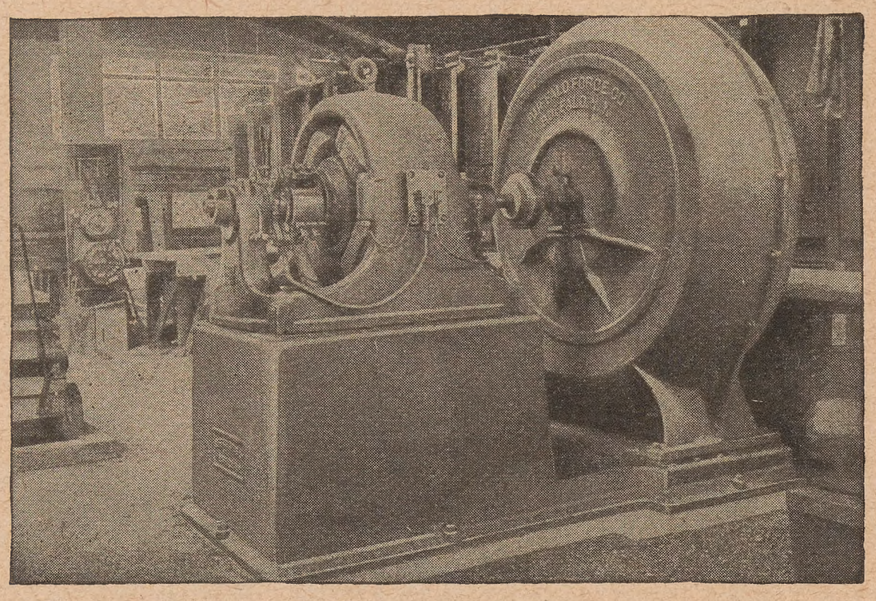

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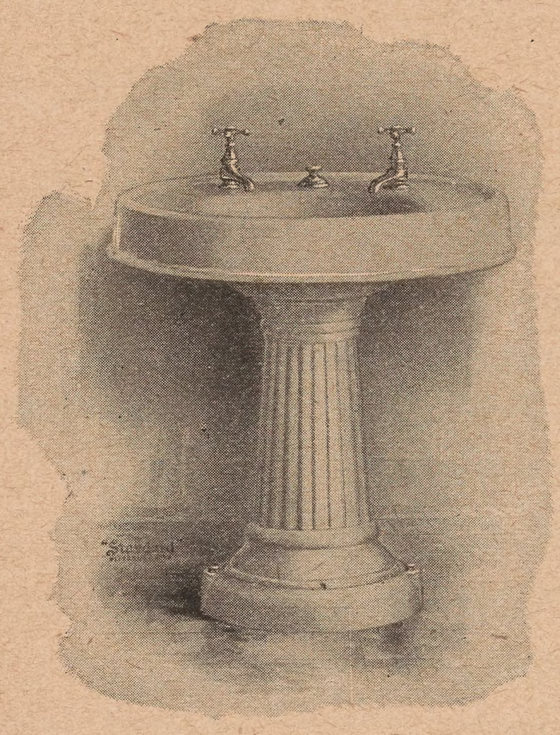

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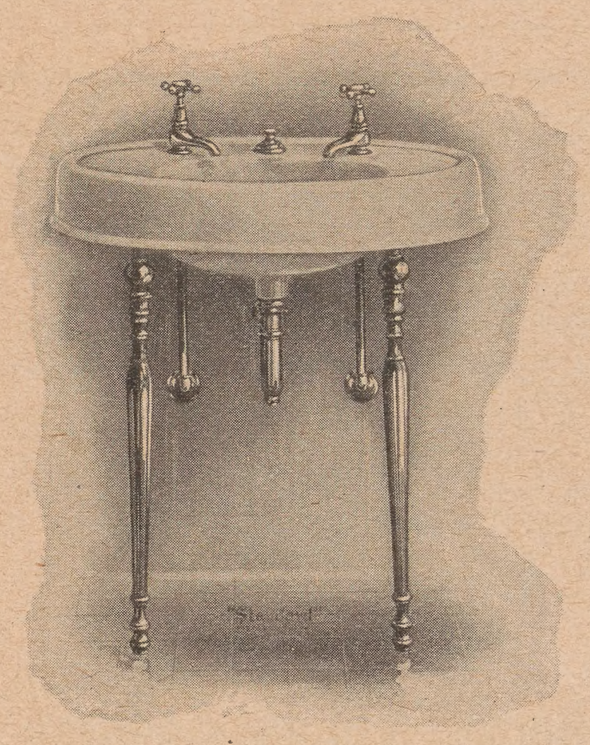

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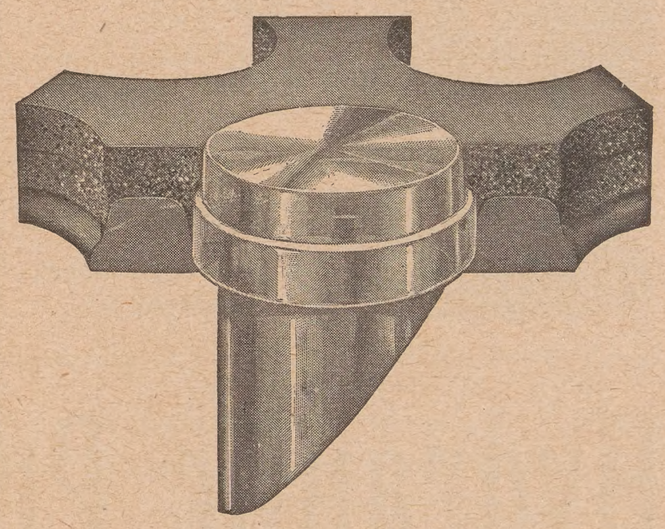

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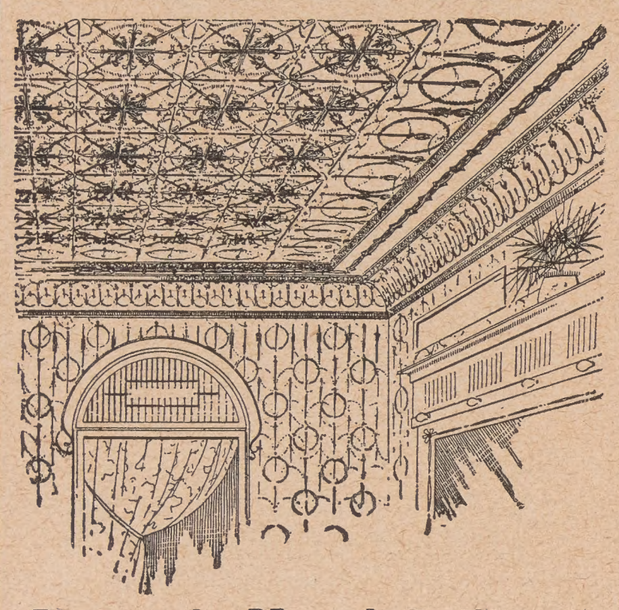

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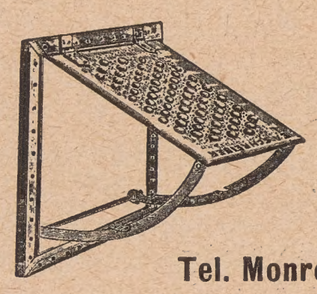

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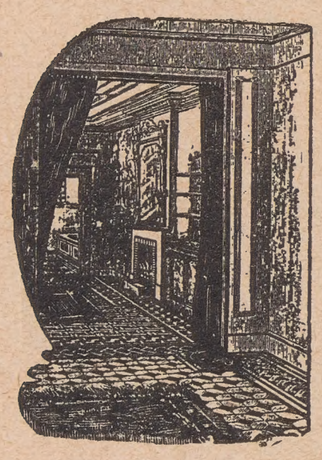

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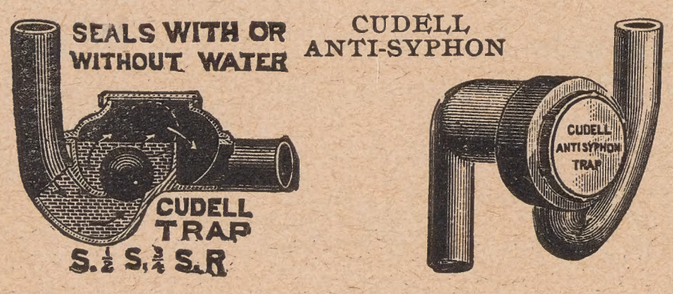

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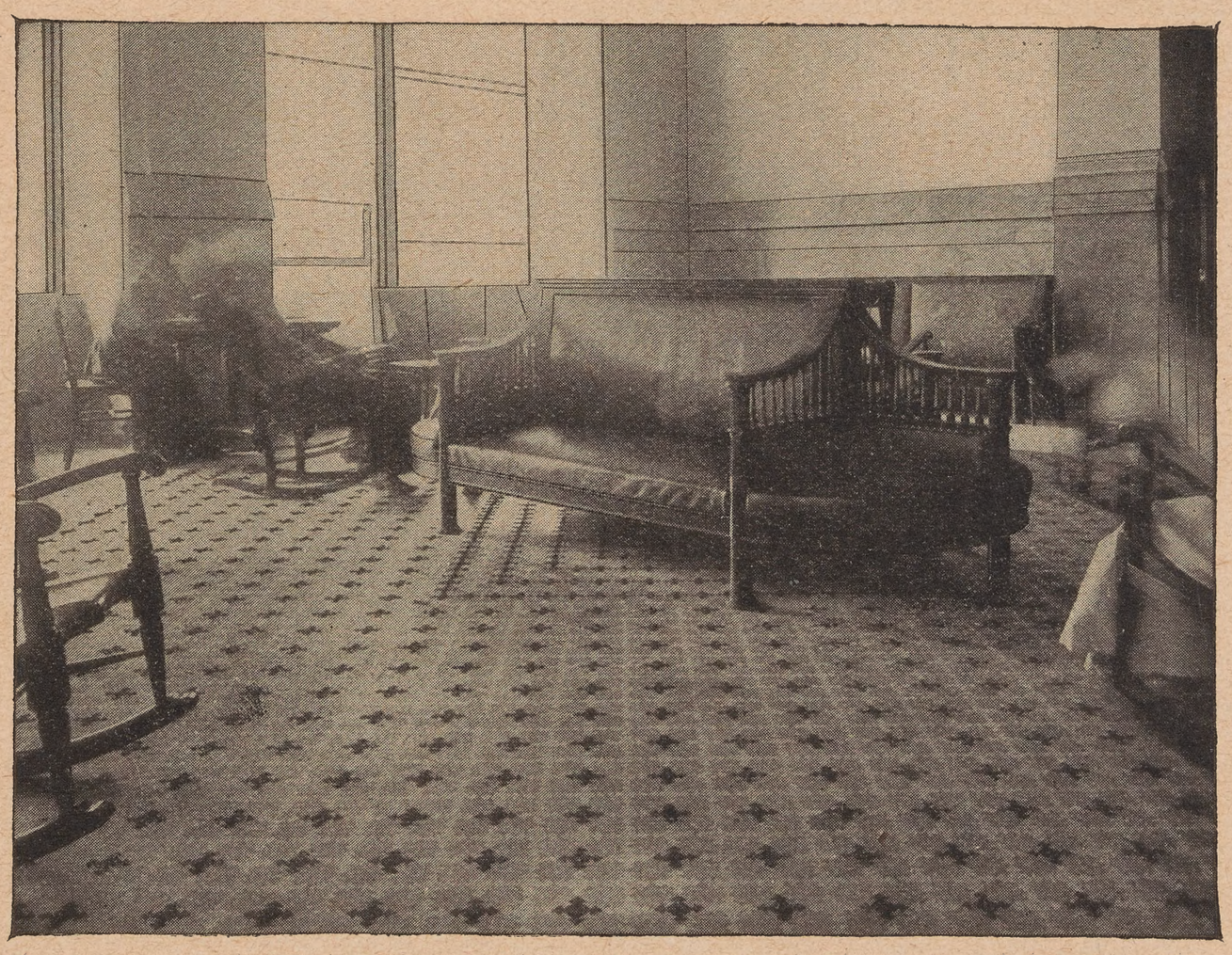

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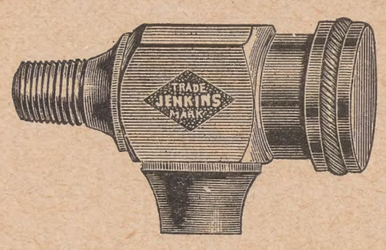

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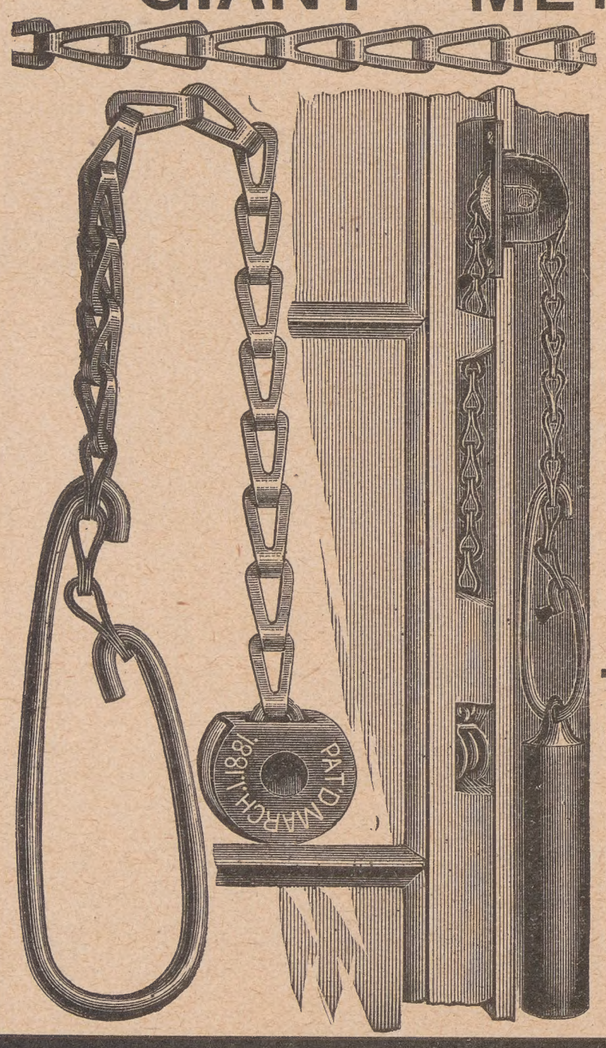

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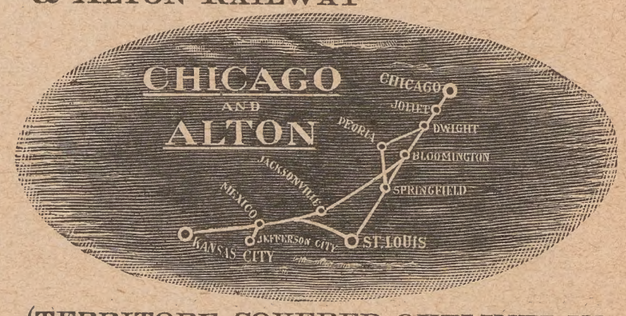

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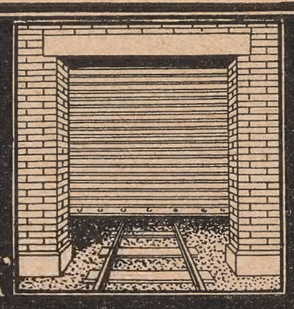

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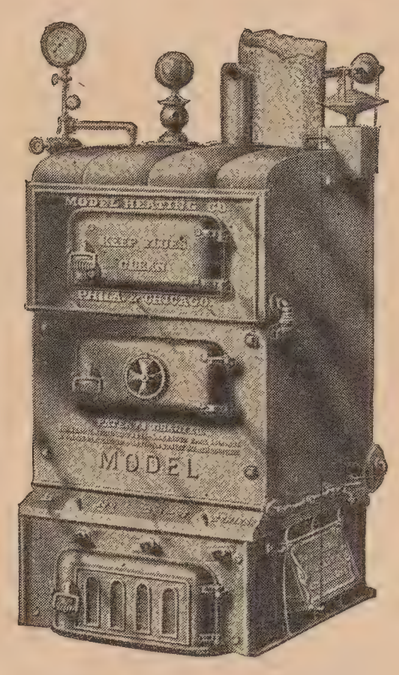

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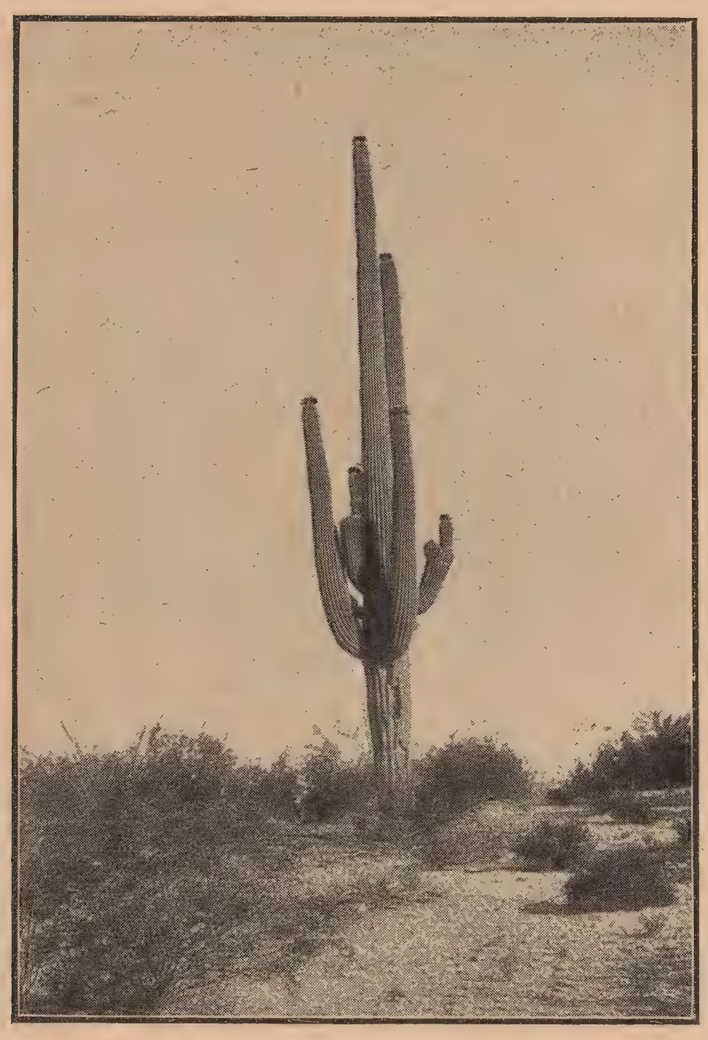

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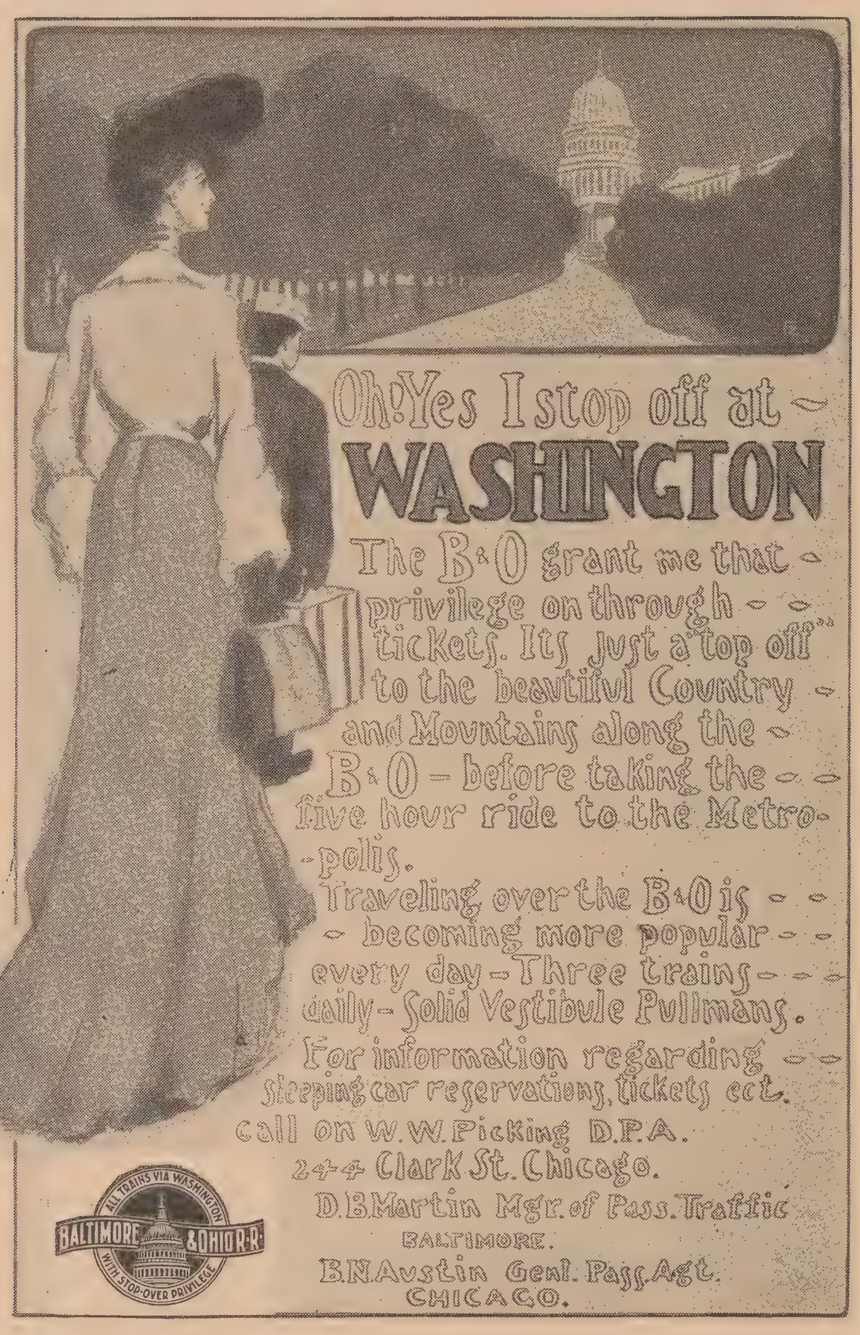
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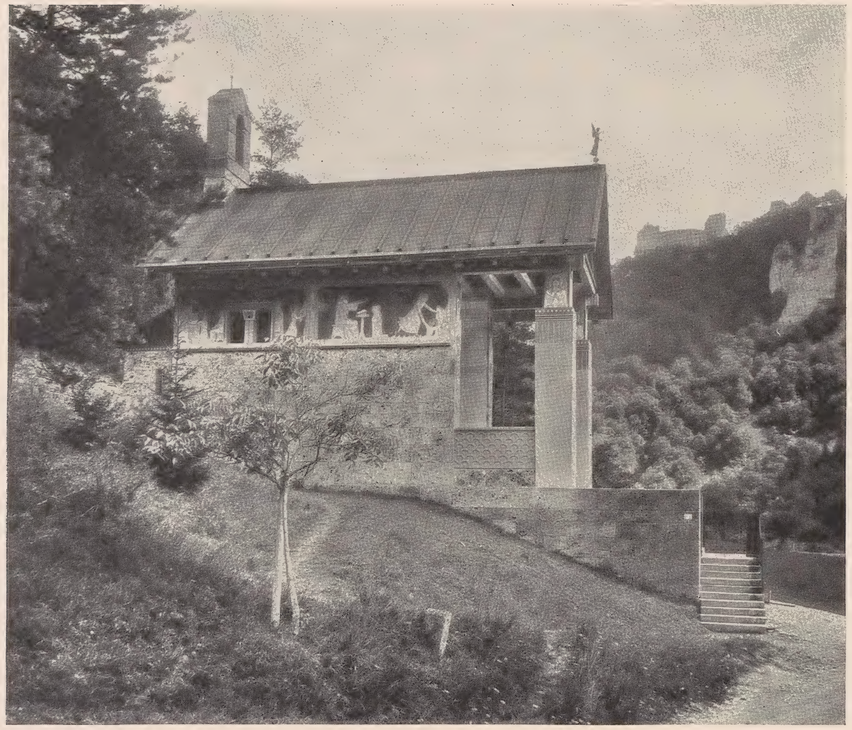

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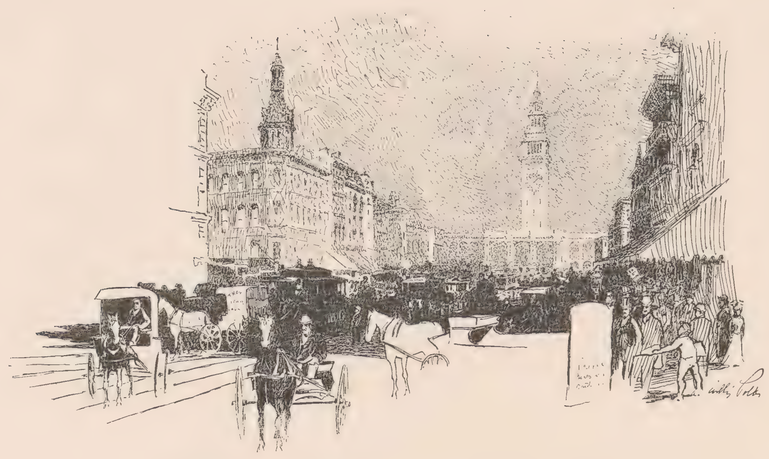

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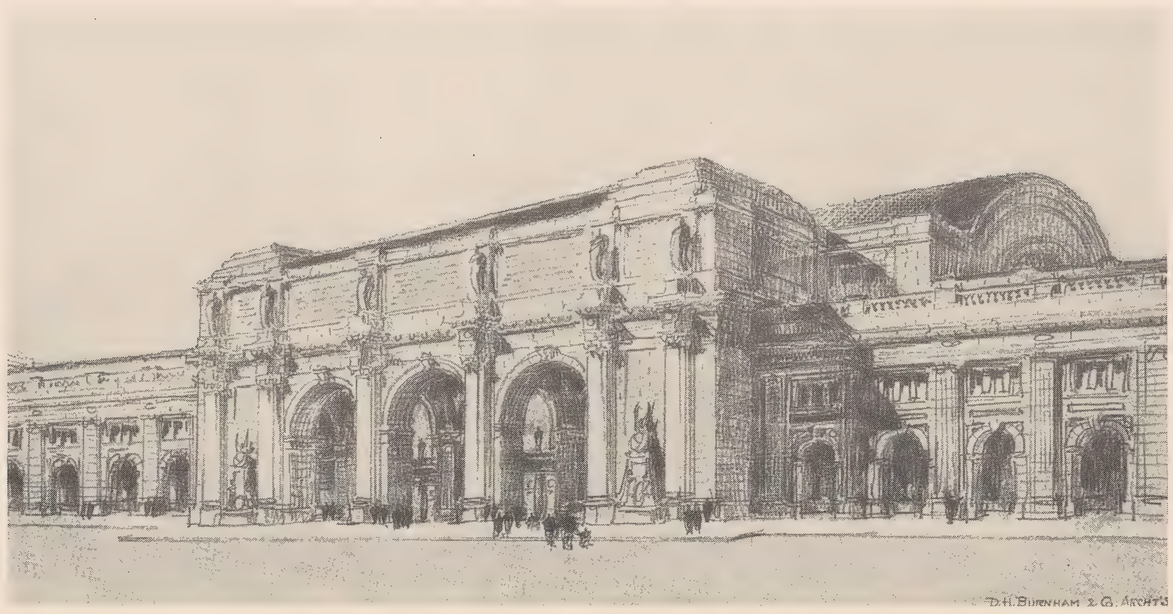

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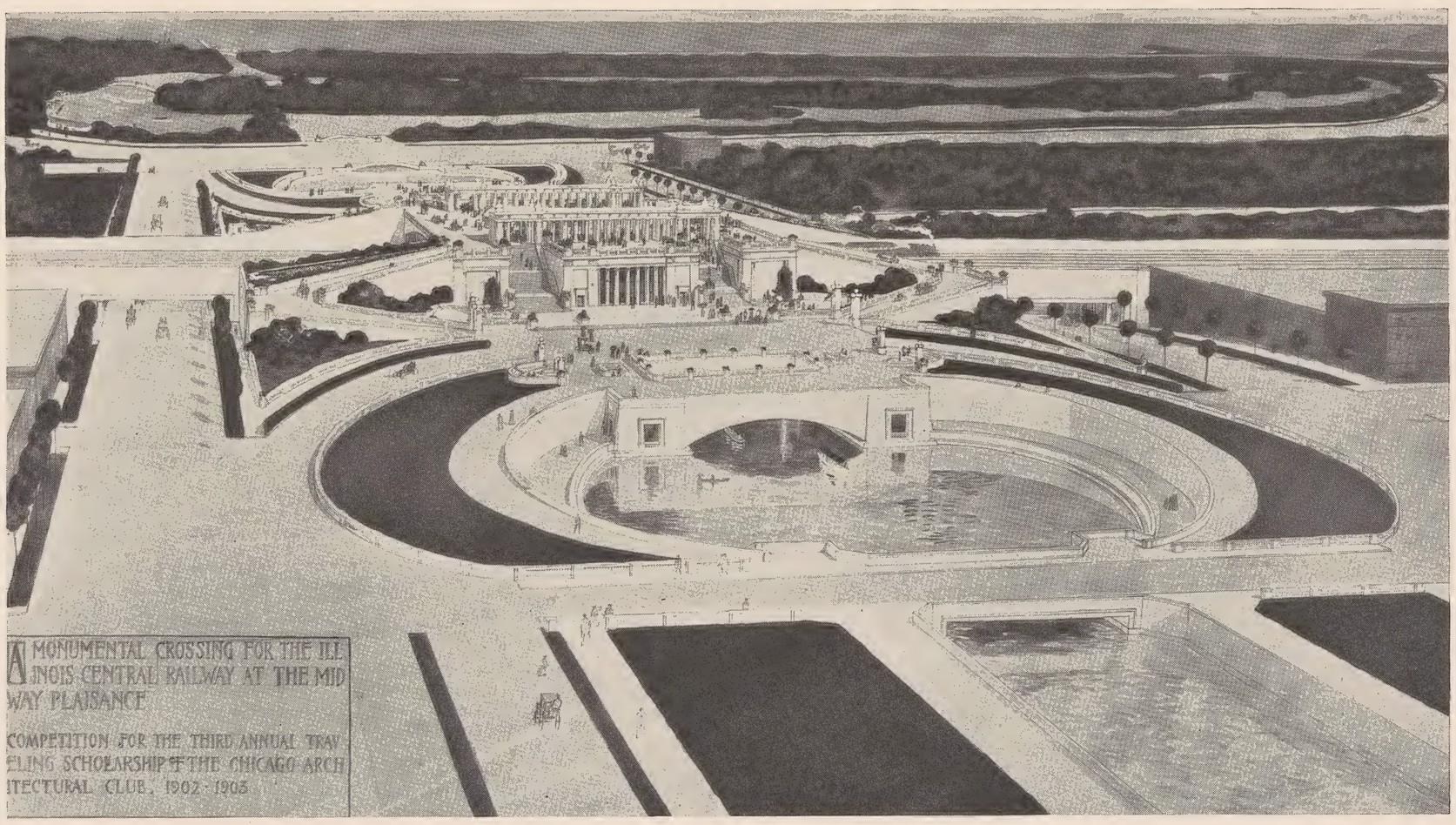
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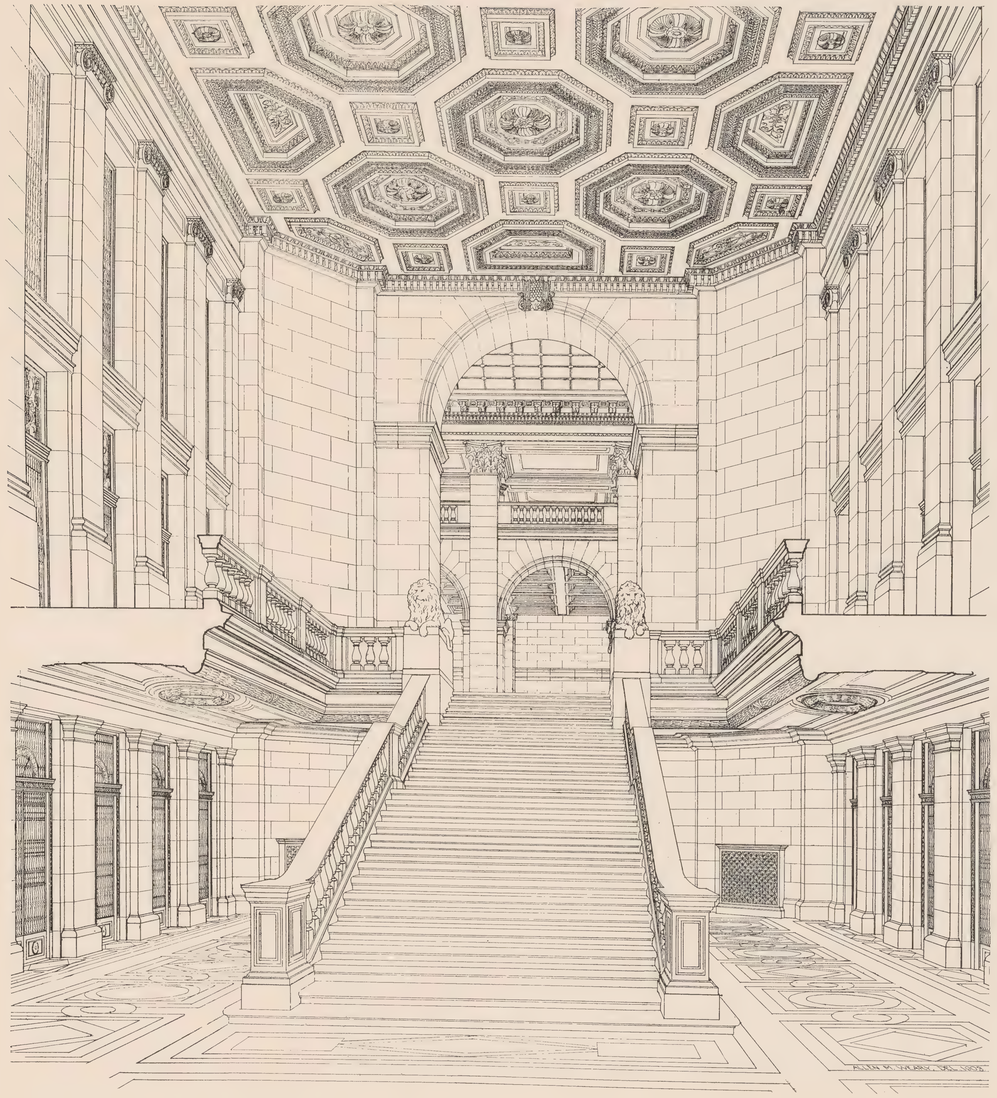

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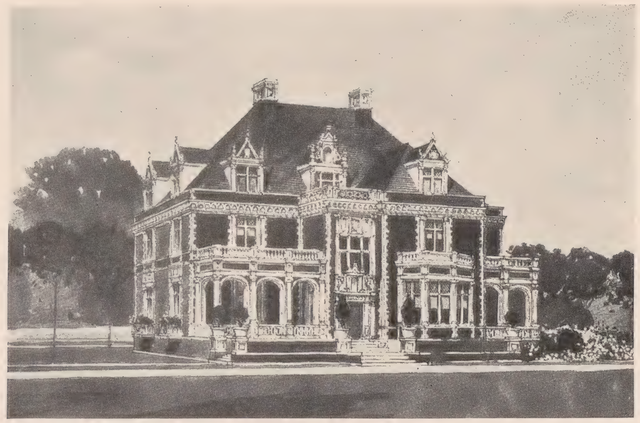

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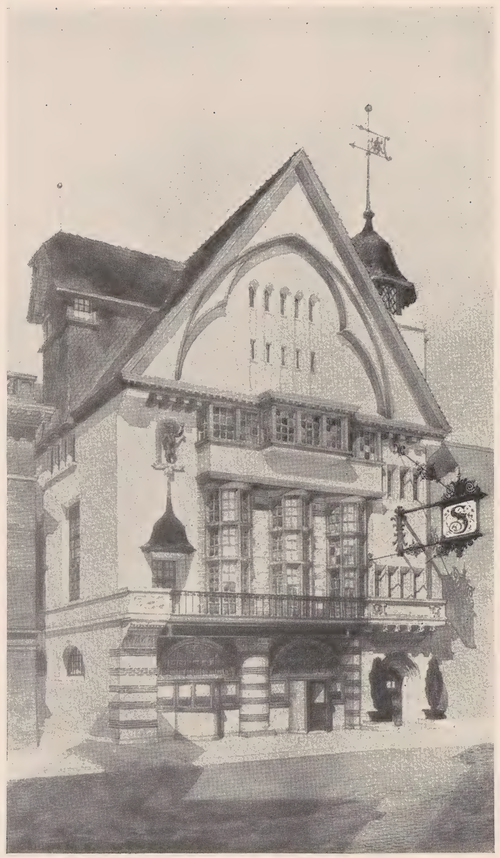

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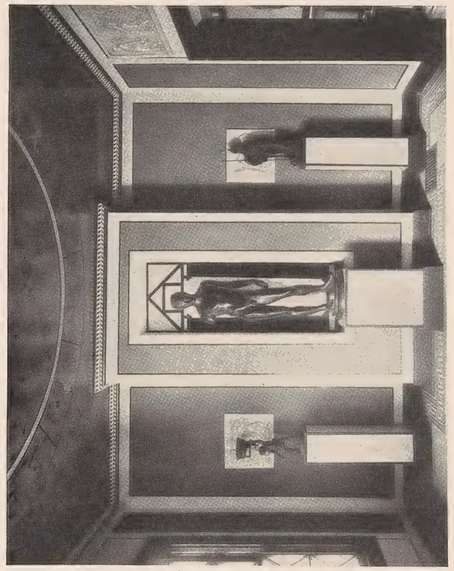

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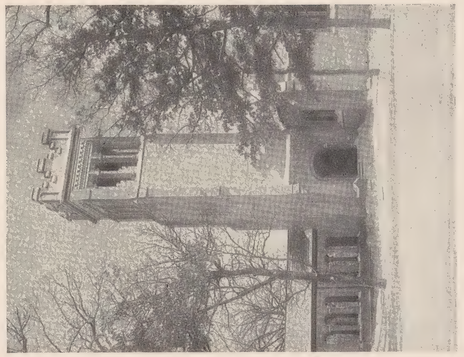

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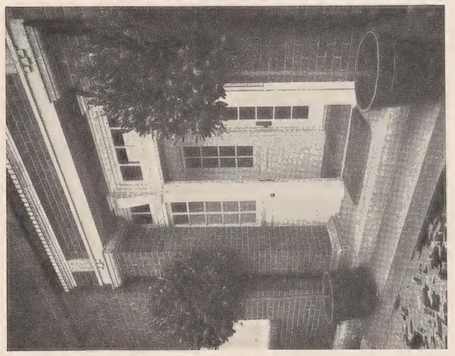

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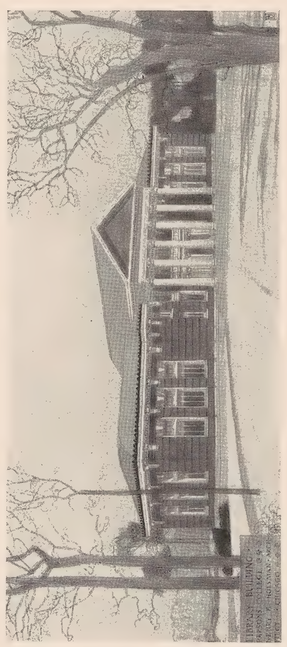

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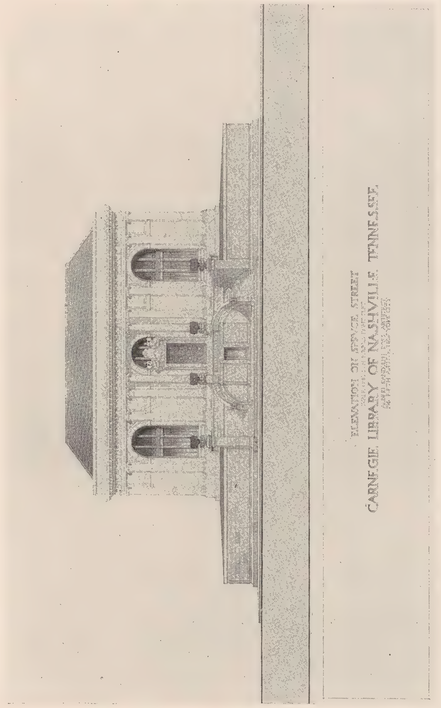

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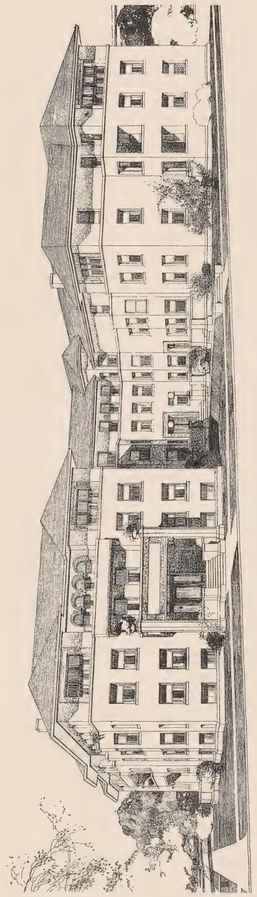

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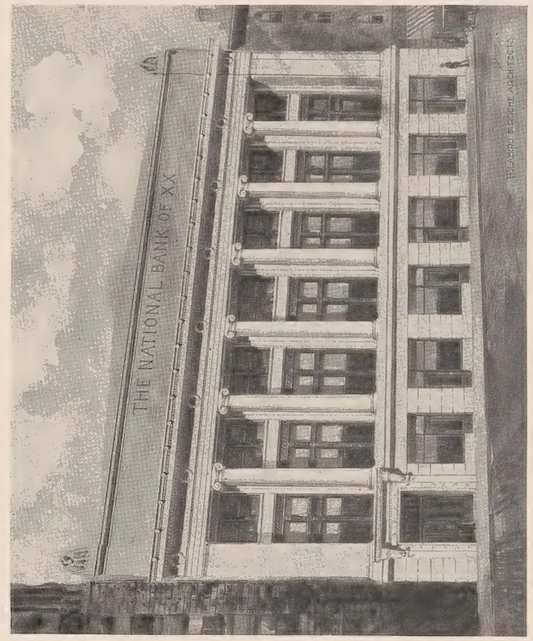

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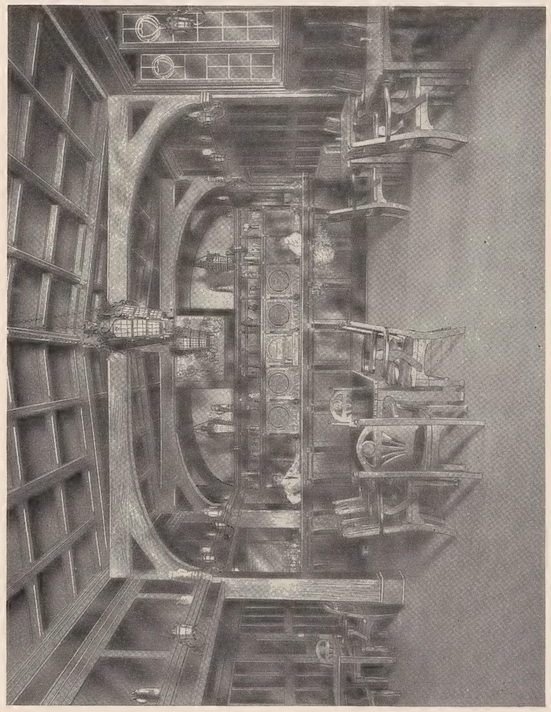

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Vol. XLI. MAY, 1903. No. 4

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CONSTRUCTION, DECORATION AND FURNISHING

IN THE WEST.

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For two years.—J. M. Carrère, New York city; James W. McLaughlin, Cincinnati, Ohio; R. Clipson Sturgis, Boston, Mass.

For one year.— Henry Van Brunt, Kansas City, Mo.; James B. Hill, Washington, D. C.; Normand S. Patton, Chicago, Ill.

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STANDING COMMITTEES FOR 1900:

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Committee on Foreign Correspondence.— Glenn Brown, Washington, D. C.; J. G. Howard, New York city; R. W. Gibson, New York city.

Legislative Committee on Government Architecture.— George B. Post, chairman. Committee — Bruce Price, New York city; John M. Carrère, New York city; James G. Hill, Washington; Alfred Stone, Providence. Alternates — Edward H. Kendall, New York city; E. B. Green, Buffalo, N. Y.; D. H. Burnham, Chicago, Ill.; Robert Stead, Washington.

NEXT CONVENTION AT CLEVELAND, OHIO.

THE ARCHITECTURAL LEAGUE OF AMERICA.

OFFICERS FOR 1901-1902.

PRESIDENT	FREDERICK S. LAMB, New York.
VICE-PRESIDENT	C. H. BLACKALL, Boston, Mass.
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NEXT CONVENTION AT ST. LOUIS, MO., OCTOBER 12-13, 1903.

Tarsney Act Applied to All Government Buildings.

As an endorsement of the efficiency of the Tarsney act the late decision of the United States Government to place the designing of public buildings generally under its provisions is certainly encouraging. The Tarsney act has had a difficult experience in establishing its position as the best method for the Government to pursue in the designing of its structures. It was "pigeonholed" by Secretary Carlisle, and, though Secretary Gage made it operative in a few selected instances, it has been more than once threatened with annulment, because it seemed to encroach on the prerogatives of the Supervising Architect's office. But the benefits which have accrued to the Government through its operation have been such, that it is now probably established as the recognized method for obtaining designs. That it has been thoroughly tried before being adopted generally for all classes of buildings gives an added endorsement to the efforts of the members of the architectural profession, who strove for fifteen years to obtain the passage of such a law, and the wisdom of their plan for obtaining the many benefits to the communities in which government buildings are erected through obtaining the services of the best architectural service the profession affords.

Prospects for Successful Building Season.

For the first time in many years, when the prospects for a busy building season was assured, the country has been comparatively free from strikes in the building trades on May 1. While this assures architects and the building public that for another year building enterprises may be commenced with comparative certainty of conclusion without loss in time and money, it is not altogether owing to the good sense of the workmen or that the unions are being controlled by men of business ability and governed upon rules of justice or equity. It is rather the reverse. In order to avoid strikes and delays contractors have made agreements with the unions that not only "recognize" them, but have advanced the prices of wages and material enormously. But this, on the whole, is better than the uncertainty that has tended to make designing and building a speculation rather than a business, and diverted millions of dollars into other channels. Contracts can now be made with a reasonable certainty of completion without delay from strikes. With the exception of Boston and Philadelphia but little interruption is noted throughout the cities of the United States, and the tendency toward building enterprises was never stronger than at present. The tendency everywhere seems to be toward a more reasonable attitude between the employer and the employed, and it must be admitted that it has been largely through the strikes, even those which were purely unreasonable, that has brought this about. If employers had always been uniformly just in their dealings with workmen, the many disastrous strikes in the past would have been averted. Their conduct has been in the line of self-protection, and they are not all to blame for establishing the most dangerous and vicious of all the trusts, that, through their encroachment upon the rights of others, have become a menace to popular government.

OBSERVATIONS AND COMPARISONS OF EUROPEAN THEATER BUILDING.

(Continued.)

BY J. E. O. PRIDMORE, ARCHITECT.

IN Italy practically no progress has been made in theater architecture for thirty years, and without counting Italy's specialty — the "Politeama" — she has very few theaters of less age than one hundred years. Scandinavia can make a better showing. In Copenhagen the "Royal Theater," which stands isolated in a magnificent situation upon the "Kongens Nytorv," is a really grand theater of the French type, while the more modern "Dagmar" theater has many good and up-to-date points.

Christiania and Stockholm both boast modern play-houses. In Switzerland, the Zürich theater is a modern building of imposing proportions in the Renaissance style. But in Italy, the home of music, the modern theater is almost unknown and has given place to the "Politeama," a huge barn-like temporary structure, filling the place of the American or German beer-garden. For here, while the opera is sung, or the vaudeville "continued,"

ROYAL THEATER COPENHAGEN.

the Italians gather around the little tables and sip their chocolate or liqueurs, and let the time glide easily, as only these Southerners know how. The Italian theaters are neglected for these Politeamas, and of these the Politeama Genoese, at Genoa, is the largest and best. It is thirty years old and will hold three thousand people. It has ordinary column upon column construction of iron around its great circular space. It is domed with a common wooden roof on light iron trusses, surrounded with a row of low windows, which, at a great height, throw light into the interior and furnish ventilation. It has ivory and gold decoration with a dull brown background. With its rows of boxes, one above the other, it is the conventional French or Italian theater in all but the name. Of modern play-houses, Palermo has the Teatro Vittorio Emmanuele, which, with the Teatro Costanzi at Rome, constitute the only recent ventures of any note in all Italy. The Costanzi, built fourteen years ago, follows the conventional French plan, a circular arena with the balconies ranged around. Its decoration is ordinary and I could find nothing worthy of special mention unless I except the beautiful ceiling frescoes. In this matter of ceiling and dome decoration, Italy excels. At Milan one may see, perhaps, the finest example in the "Lirico Internazionale" — the ceiling here is a vast circular dome, very flat, but with relief in the shape of four mammoth eagles which at four corners seem to support the beautifully frescoed ceiling. The divisions in the decorative treatment are effected by enormous spreading palm leaves, which each eagle supports as a standard. The groundwork is in a lovely azure tint. The wall and balcony colors follow the treatment which is all but universal in Italy and France — ivory and gold, with a deep red background. It is altogether the most unique and strikingly beautiful scheme I have ever seen in an auditorium ceiling. The Royal Albert Hall in London is grander, New York's pride, the "Majestic," more daring, but they both lack the painters' most exquisite frescoes, which in the Lirico Internazionale are linked with a superb architectural creation. But, speaking of Rome's "Costanzi," here one may see, as also in perhaps two other Italian theaters, the first indication of breaking away from the antiquated arena-like arrangement of seats. Italy, when given time, will adopt the western method of convenience for the audience. In the two upper tiers, real balconies have taken the place of loges. There was, indeed, a slight attempt at this in the "San Carlos," at Naples, the largest theater auditorium in the world. Of this vast structure, built in 1737 and renovated after a fire in 1816, Italians are proud for a reason one would hardly imagine possible. The easy-going Italians constructed it in six months' time; and it is said a private entrance from the adjoining palace was built in one night, before the opening, at the command of King Charles III. Modern Italy builds more slowly, but the plan is becoming more reasonable if less artistic. The next step will be to bring the balconies forward, so that the audience may hear and see what transpires upon the stage, but it goes hard with the Italian architect to destroy the symmetry of that monster circle and to cut off the view of its precious dome. Only when he fairly adopts our system will he appreciate the skill required to evolve a really artistic interior in the face of modern requirements for utility, and for the convenience and comfort of the audience, which must be the first consideration in all present-day theater planning. The Costanzi, with its six "calorifers" or furnaces located in different

ENTRANCE TO CASINO AT MONTE CARLO.

parts of the basement, its own electric-lighting and power plant, its enormous stage opening fifty-four feet wide (which, however, has not the least pretense of a fireproof curtain*), and its monster clock, forming the keystone of proscenium arch, and its solidity of construction, is a step in the right direction. Electric light I did say, but I should not, as in Europe electricity is everywhere and goes without saying. The occupant of a log shanty in the mountains of Norway has his telephone until the winter's snow buries the line and poles. We think America supreme in electric

* "There is no fireproof curtain in all Italy!" So said the Count Luini Broglio, director of the Manzoni theater at Milan, as I sat in his office listening to a most interesting description of some of Italy's celebrated play-houses. And I have found this sentence typifies generally the lack of modern methods south of the Alps.

usages, but we can go to Europe for "light." And Italy has made some other progress. When I think of the one-hundred-year-old Sociale theater, at Como, with its vast labyrinth of heavy timber construction suspended overhead (the most ingeniously conceived fire-trap the world has known—it is frightful in its possibilities), and when I remember the timber, post and lintel

ALBERT HALL, LONDON.

construction in the balconies of the barnlike "Malebran" theater, at Venice, with the narrow, dark and winding alleys for exit, and doors usually kept locked to bar the sneak-thieves (yet nothing to steal that I could see, except wooden benches), then I can congratulate the Italians on their progress, little though it be, as seen in the two modern houses of Palermo and Rome. I must not conclude my narrative without a tribute to the unvarying courtesy of the various theater managers and officials, who, throughout my European investigations, offered every facility for study and research. And particularly to that prince of good fellows, Count Luini Broglio, administrator of the "Manzoni," at Milan, who paved and made easy for me the way throughout Italy.

A NEW METHOD OF COMPUTING THE BENDING MOMENTS OF A LOADED BEAM.

BY JAMES R. WILLETT.

In May, 1893, while drawing some diagrams relating to graphical computation, I found that the shear areas on each side of the point of zero shear (on span of a beam) were always equal under any conditions of loading.

The shear areas were computed by the scale of lengths for the horizontal distances and by the scale of loads for the vertical distances.

So far as I know, this fact had never been stated previously, and I wrote of it to Prof. N. C. Ricker (of the University of Illinois), who, after a short time, replied that "your point in regard to equality of shear areas is original so far as I can find." He also said that "This principle becomes a general law that the shear area between either support and a given point equals the bending moment at that point."

This matter is perhaps of minor importance; nevertheless, it is interesting and useful, especially as a check.

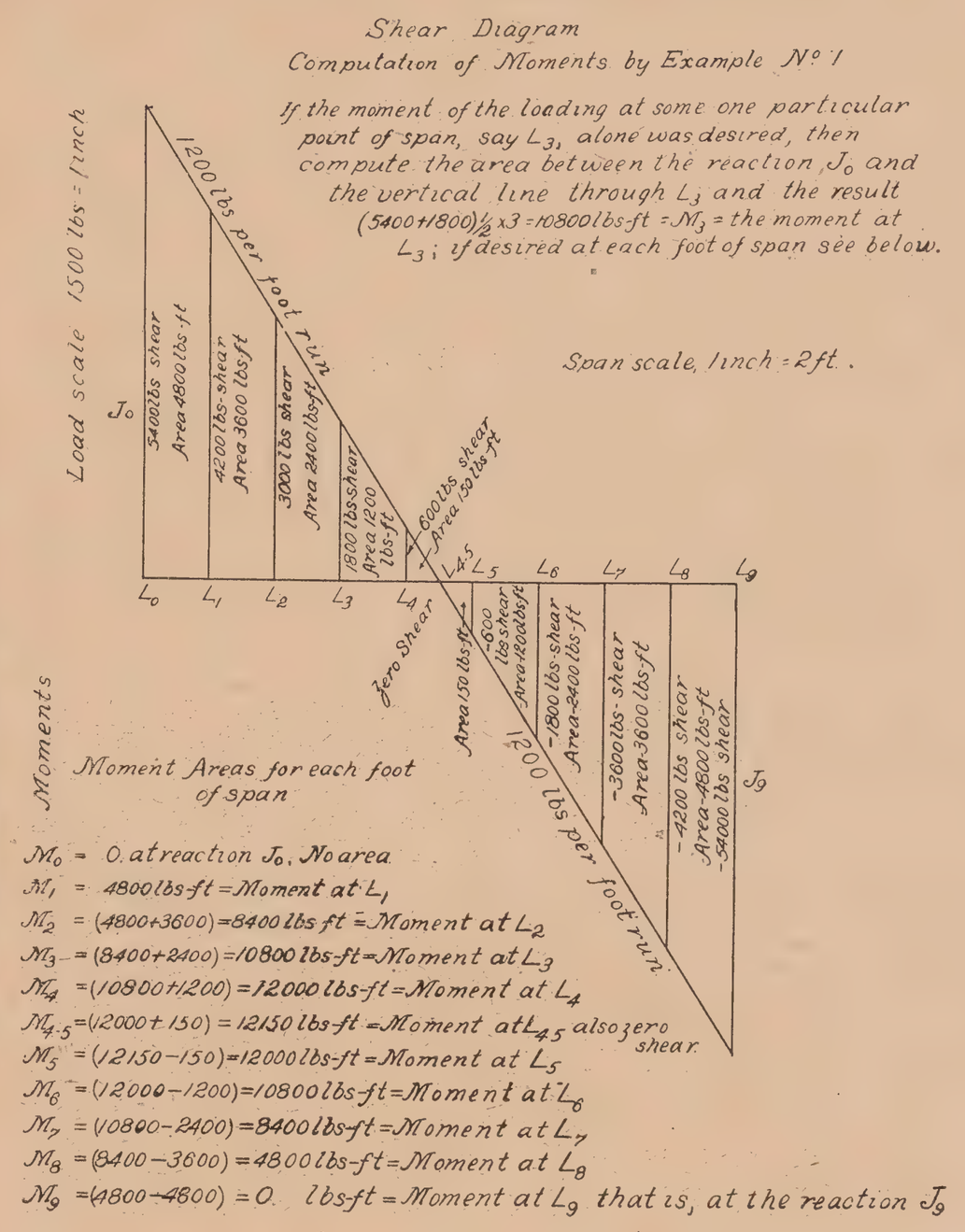
The following examples are intended to illustrate the principle announced by Professor Ricker as to the equality of the shear areas and bending moments. Their correctness can be tested by computing them in the usual way.

The loading having been given, the reactions may be found graphically (as shown in "Ricker's Trussed Roofs" or any similar work) or they may be computed arithmetically.

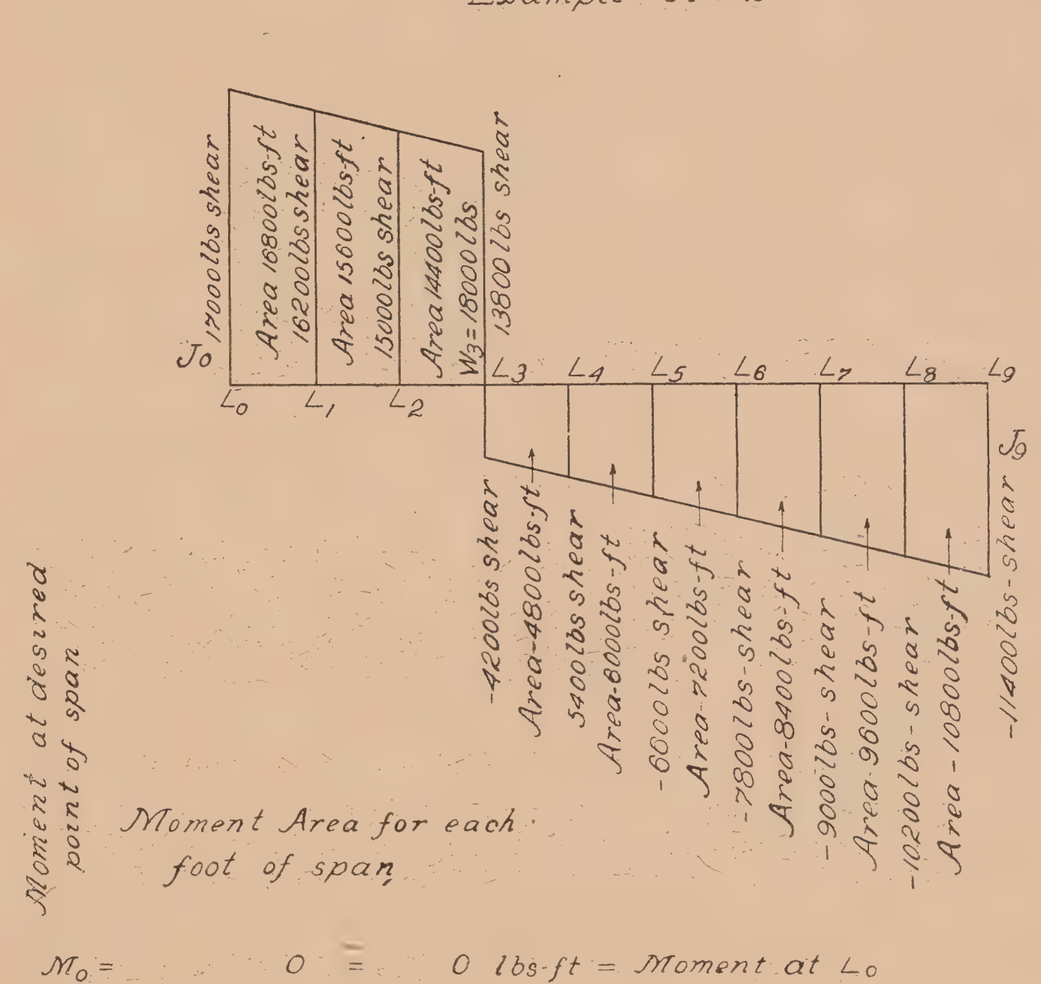
Example 1. Given a span of 9 feet which is intended to support a uniformly distributed loading of 1,200 pounds per foot run.

This gives a total loading of 9×1,200=10,800 pounds on the whole of the span. Each of the supports then will bear 5,400 pounds.

To draw the shear diagram: Draw the horizontal line of the span. At each end of the span draw vertical lines to represent


Shear Diagram
Computation of Moments by Example No 1
If the moment of the loading at some one particular point of span, say L_3, alone was desired, then compute the area between the reaction J_0 and the vertical line through L_3 and the result $(5400+1800)\frac{1}{2}\times 3 = 10800$ lbs-ft $= M_3$ = the moment at L_3; if desired at each foot of span see below.
Load scale 1500 lbs = 1 inch
Span scale, 1 inch = 2 ft.
1200 lbs per foot run
5400 lbs shear Area 4800 lbs-ft
4200 lbs shear Area 3600 lbs-ft
3000 lbs shear Area 2400 lbs-ft
1800 lbs shear Area 1200 lbs-ft
600 lbs shear Area 150 lbs-ft
Zero Shear
Moments
Moment Areas for each foot of span
Area 150 lbs-ft
-600 lbs shear Area 1200 lbs-ft
-1800 lbs shear Area 2400 lbs-ft
-3600 lbs shear Area 3600 lbs-ft
-4200 lbs shear Area 4800 lbs-ft
-5400 lbs shear
1200 lbs per foot run
M_0 = 0. at reaction J_0, No area
M_1 = 4800 lbs-ft = Moment at L_1
M_2 = (4800+3600) = 8400 lbs-ft = Moment at L_2
M_3 = (8400+2400) = 10800 lbs-ft = Moment at L_3
M_4 = (10800+1200) = 12000 lbs-ft = Moment at L_4
$M_{4.5}$ = (12000+150) = 12150 lbs-ft = Moment at L_{45} also zero shear.
M_5 = (12150−150) = 12000 lbs-ft = Moment at L_5
M_6 = (12000−1200) = 10800 lbs-ft = Moment at L_6
M_7 = (10800−2400) = 8400 lbs-ft = Moment at L_7
M_8 = (8400−3600) = 4800 lbs-ft = Moment at L_8
M_9 = (4800−4800) = 0 lbs-ft = Moment at L_9 that is, at the reaction J_9

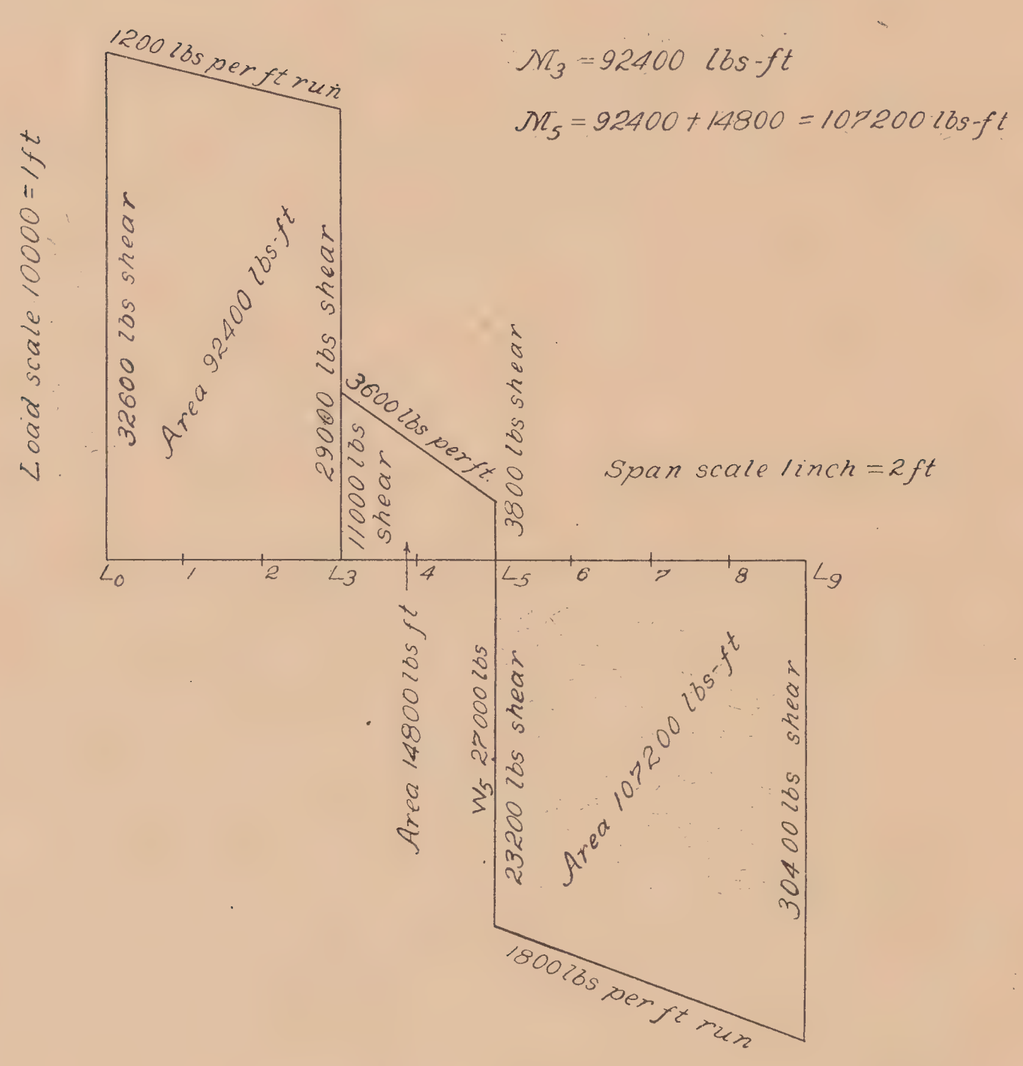
the reactions, one above and the other below the span line. The horizontal line denotes length (in feet) and the vertical lines pounds. Any convenient scales may be used. It is not necessary that the scale of lengths be the same as the scale of the loading. Connect the ends of the reactions by a diagonal line. See figure.


Shear Diagram
Computation of Moments by Example No 2
17000 lbs shear
Area 16800 lbs-ft
16200 lbs shear
Area 15600 lbs-ft
15000 lbs shear
Area 14400 lbs-ft
W_3 = 18000 lbs
13800 lbs shear
-1140 lbs-shear
-4200 lbs shear
Area-4800 lbs-ft
-5400 lbs shear
Area-6000 lbs-ft
-6000 lbs shear
Area-7200 lbs-ft
-7800 lbs-shear
Area-8400 lbs-ft
-9000 lbs-shear
Area-9600 lbs-ft
-10200 lbs-shear
Area-10800 lbs-ft
Moment at desired point of span
Moment Area for each foot of span
M_0 = 0 = 0 lbs-ft = Moment at L_0
M_1 = 0+16800 = 16800 " " = " " L_1
M_2 = 16800+15600 = 32400 " " = " " L_2
M_3 = 32400+144000 = 46800 " " = " " L_3
M_4 = 46800−4800 = 42000 " " = " " L_4
M_5 = 42000−6000 = 36000 " " = " " L_5
M_6 = 36000−7200 = 28800 " " = " " L_6
M_7 = 28800−8400 = 20400 " " = " " L_7
M_8 = 20400−9600 = 10800 " " = " " L_8
M_9 = 10800−10800 = 0 " " = " " L_9

Suppose that it is desired to know the moment, M_1 of the whole loading, at the point L_1 of the span, one (horizontal) foot from the reaction J_0.

Draw the vertical line through L_1 until it meets the diagonal line. This vertical line is, by load scale, 1,200 pounds shorter

Shear Diagram
Computation of Moments by
Example N° 3


1200 lbs per ft run
M3 = 92400 lbs-ft
M5 = 92400 + 14800 = 107200 lbs-ft
Load scale 10000 = 1ft
32600 lbs shear
Area 92400 lbs-ft
29000 lbs shear
3600 lbs per ft.
11000 lbs shear
3800 lbs shear
Span scale 1inch = 2ft
L0 1 2 L3 4 L5 6 7 8 L9
Area 14800 lbs ft
W5 27000 lbs
23200 lbs shear
Area 107200 lbs-ft
30400 lbs shear
1800 lbs per ft run

than the reaction J_0 (5,400 — 1,200=4,200), and the area between it and said reaction is 4,800 lb. ft.=M_1.

In like manner the moment, of the whole loading, at the point of span L_2 can be found. The area between the reaction J_0 and the vertical line through L_2 is (4,800+3,600)=8,400 lb. ft.=M_2.

Let it be desired to compute the moment at the point of span L_7 only.

The shear area of the left-hand triangle, extending from J_0 to $L_{4.5}$, being above the span line, is plus and equals

$$\overbrace{J_0\ L_{4.5}}^{24{,}300}\Big\{\begin{matrix}5{,}400\\4.5\end{matrix}\Big\}/2 = 12{,}150 \text{ lb. ft.}$$

The shear area of the small triangle between zero shear ($L_{4.5}$) and L_7 being below the span line, is minus and equals

$$\overbrace{J_7\ L_{7-4.5}}^{7{,}500}\Big\{\begin{matrix}3{,}000\\2.5\end{matrix}\Big\}/2 = -3{,}750 \text{ lb. ft.}$$

Then

$$M_7 = 12{,}150 - 3{,}750 = 8{,}400 \text{ lb. ft., as before.}$$

In a similar manner the remaining examples can be solved.

THE following five architects have been selected to proceed at once in the preparation of plans for an armory for Troop C, of Brooklyn: Lord & Thomas, R. T. Alberall, Kimball, Hirsh & Hutton, Pilcher, Thomas & Thachan and Parfitt Bros. These architects will prepare plans, according to specifications which the Armory Board will recommend, and will, within a few weeks, be ready to begin the work on the armory. It has been intended, up to the present time, to keep the cost of the armory down to $400,000. When the cost was considered recently, the mayor said that he did not believe a fireproof armory could be built for that sum. It was, therefore, decided that half a million dollars be given for the purpose. The 13th Regiment armory is soon to be extended, and this, with the 2d Naval Battalion armory, costing half a million dollars, which was recently completed for Brooklyn, will be upon a better "war footing" than ever before.

COMPETITION.*

BY ALFRED W. S. CROSS, M. A., AND H. B. CRESWELL.

AS one who is greatly in favor of the system of obtaining designs for public buildings by means of competitions, I am, unfortunately, unable to agree with many of the views adopted by Mr. Creswell in his extremely able paper. I have had, quite recently, the pleasure of perusing an equally excellent paper on the same subject by Mr. G. H. Willoughby, of Manchester, in which its author, a strong believer in the system, as he has shown both by precept and practice, writing from a standpoint diametrically opposite to that selected by Mr. Creswell, argues in its favor, as follows:

"From my point of view, it is a mistake to suppose that the profession can dispense with healthy, stimulating competitions. A man never knows what is in him until he has measured himself with his fellows in real honest work of this kind.

"Consider what a large field for effort is presented to our younger men at the outset of their career, when youth, with its enthusiasm and capacity for work, is so strong.

"With many, the commissions which they have in hand fail to fully occupy their time. Does not the opportunity thus afforded through the medium of competitions, which is, I think, confined to our profession, create, if grasped, a lasting habit of steady, continuous application and activity — a prelude to the time when hands and head will be fully occupied on more certain work?

"Let me remind you of the endless opportunities which cross our path, through the medium of competitive problems, for the study and investigation of the many kinds of structures the architect of to-day is called upon to design."

These words of Mr. Willoughby represent with more or less exactitude the views of those architects who, while believing that competitions are desirable and tend to the advancement of architecture, are at the same time determined to do their utmost to remedy the undoubted evils connected with the competition system in vogue in this country, which evils, involving as they do many miscarriages of justice and frequent deviations from rectitude on the part of promoters and assessors, must be rooted out, and with this object in view a Society for the Reform of Competitions has been formed, and is now, I honestly believe, doing good work in its efforts to protect members of our profession against the wiles of unscrupulous promoters of competitions. But, after having made good their position with regard to promoters, competing architects should advance a step further and insist upon the employment, wherever practicable, of a jury of assessors in place of the present one-man system, which has proved to be a dismal failure. It is neither desirable nor necessary for me to enter into particulars, or to call attention to specific instances in which flagrantly unfair awards have been made; the general fact is common knowledge, and there are doubtless many members of this association who have suffered, at times, from the incompetence, lack of sound judgment, call it what you will, of certain assessors.

In France, where, as a matter of course, "they manage these things better," and in America, the jury system is now almost always applied to important competitions, in the latter country with the following code for the conduct of competitions, as presented to the American Institute of Architects at their annual convention in 1900, namely:

Form of Competition.— A competition as a means for the selection of an architect may properly assume one of the following forms:

(*a*) "Limited" to a certain number of architects, each of whom is invited to take part.

(*b*) "Open" to all who desire to enter, or to all of a certain class.

(*c*) "Mixed." Certain architects being invited, but others being at liberty to take part.

Payment of Competitors.— In all competitions the first prize should be the award of the commission to design the building and superintend its construction, and the program should definitely state that the successful competitor will be so retained, and that he will be paid for his services at the rates established by the American Institute of Architects. To allow for the contingency of delay, or of the discontinuance of the work, the program should provide for a substantial payment to the successful competitor on the award of the competition, such payment to be regarded as on account of the final commission.

Payments to unsuccessful competitors should be as follows, namely: In limited competitions each should be paid a fixed amount. In open competitions prizes fixed in number and amount should be provided. In mixed competitions the two classes of competitors should be paid in the manner above described.

The Professional Adviser and the Jury.— It is highly desirable, in the interests both of the owner and the competitors, that a professional adviser should assist in the preparation of the program, and that the professional adviser, or a competent jury, consisting, at least in part, of experts, should assist in making the awards. The professional adviser, or jury, may have full power to make the award, or they may select a number of designs, and, placing them in order of merit, leave the final choice to the owner or his representatives. Wherever possible, the adviser, or the jury, should make a positive report in favor of one design and

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*Papers read before the Architectural Association at London, March 6, 1903, and published with full proceedings in *The Builder* for March 14.

recommend the employment of its author as architect for the building.

The Program.— The program should be so drawn as to form a contract. It should:

(*a*) Name the owner of the structure forming the subject of the competition, and state whether the owner institutes the competition personally or through representatives. If the latter, it should name the representatives; state how their authority is derived, and define its scope.

(*b*) State the kind of competition to be instituted and, in limited competitions, name the competitors, or, in open competition, if it is limited, geographically or otherwise, state the limits.

(*c*) Fix a definite time and place for the receipts of the designs; the time should not be altered except with the unanimous consent of the competitors.

(*d*) State the limit of cost, if fixed, the desired accommodation, and the conditions respecting the site.

(*e*) Fix uniform requirements for the drawings, giving the number, the scale or scales, and the method of rendering. As the representation of a general scheme (rather than of a design perfectly studied in all its parts) is the object of the drawings, they should be of the simplest kind, capable of explaining such a scheme.

(*f*) State whether the submission of more than one design by a competitor is forbidden or permitted.

(*g*) State whether the competition is to be anonymously conducted or not, and if anonymously, provide the method.

(*h*) Name the judge or jury, or provide a method for their selection. Define his or their power.

(*i*) Provide for placing out of the competition any drawing which violates the terms, or any set of drawings whose authors have so disregarded the terms as to deserve the extreme penalty.

(*j*) Provide that during the competition there shall be no communication upon anything relating to the competition, except in writing, between any competitor on the one hand and the owner or any representatives of the owner, the professional adviser, or any juror, on the other, and that any information, whether in answer to such communication or not, shall be given in writing, simultaneously to all competitors. Give a date after which no question will be answered.

(*k*) Fix the nature or the amount of the awards or prizes.

(*l*) State, in case the professional adviser or jury are not empowered to make the award, in whom such power is vested.

(*m*) Fix the period of time within which the final decision will be rendered.

(*n*) Provide for sending the decision and a copy of the report of the professional adviser or of the jury to each competitor.

(*o*) Provide that no drawing shall be exhibited or made public until after the award, and not then without the consent of the author.

(*p*) Provide for the return of successful drawings to their respective owners within a reasonable time.

(*q*) Provide that nothing original as to this competition in unsuccessful designs shall be used without compensation to the author of the design in which it appears.

While one may not agree absolutely with each individual clause in the above exhaustive code, yet, broadly speaking, it appears to have been carefully and impartially framed alike in the interests of both promoters and competitors, and it is fundamentally sound in its insistence upon the following essentials, which should be borne in mind during the preparation of every set of conditions issued to competitors in this country:

1. A definite pledge should be given by the promoters as to their intention to retain the services of the successful competitor.

2. The conditions should be framed to constitute a contract between the promoters and the competitors.

3. The drawings required should be of the simplest kind necessary for explaining the competitors' schemes.

4. A copy of the assessor's report should be sent to every competitor.

5. No communication, except in writing, should be allowed upon anything relating to the competition between any competitor on the one hand, and the owner or any representative of the owner, the professional adviser or any juror on the other.

With regard to (1), this clause is essential to the success of any properly organized competition. Promoters must be brought to understand that the payment of a premium is quite insufficient to reimburse the successful competitor for his outlay of time and money. As to (2), this proposal is an innovation as far as this country is concerned, but it is one that will form, sooner or later, an integral part of the conditions of the competitions for all public buildings. (3) Has been evidently framed with the object of minimizing the amount of work required from each competitor, and any experienced competing architect will vouch for its necessity. (4) Constitutes a laudable attempt to allay many of the heart-burnings that almost invariably follow an award. In my opinion, it is very desirable that a copy of the assessor's report, containing the award and his critical notes on the various designs, should be issued to every competitor. I have here a copy of such a report, kindly loaned to me by its author, Mr. Paul Ogden, of Manchester, which is, in my opinion, ideal in its characteristics. It contains photographic reproductions of all the plans submitted, together with the assessor's criticism of each design, by which competitors are enabled to obtain a very fair insight into the reasons governing the award.

The last stipulation (5), although it might perhaps be strengthened, is, I think, a wise one, as under our haphazard system, or rather want of system, a competitor is often tacitly allowed to obtain special information from individual members of the promoter's committee or from officials and subordinates connected with them. and this course of action is to be deprecated, as the contest between the competing architects should be fought on the information conveyed by the conditions, and by the subsequent replies to questions, and by that information alone.

On the whole I think, gentlemen, you will agree with me that, the problem relative to the conduct of architectural competitions having been successfully solved by the American architects, it is the duty of all members of our profession in this country to support the movement that has recently been initiated to insure a similarly satisfactory result here. By doing so you will be upholding the dignity of the profession, for what other body of educated men receives the insults that are constantly offered to us by promoters of competitions, who often advertise for designs for buildings which they have not the slightest intention of carrying out, or for which they have actually selected their architect before the issue of the conditions for their so-called competition. To put it briefly, competing architects must sift the good competitions from the bad ones, and protect themselves against unfair or incompetent assessors by insisting upon the introduction of the jury system of assessing. The only argument I have heard advanced, so far, against the appointment of jurors is that emanating, I presume, from those architects who have too great an appreciation of the value of the fees obtainable under the present system of assessing to make them desire any change; to the effect that the excessive cost of the jury system militates against its adoption, but if — as in America — no first premium be awarded, and the definite commission to carry out the work be substituted, there would not be, apparently, any insuperable difficulty in providing the necessary funds for the payment of three or more jurors.

Mr. H. B. Creswell then read the following paper:

It is six years since I stood in this room, at the invitation of your committee, to read a paper before you on this same subject of "Architectural Competitions," which brings us here to-night, and I do not think that the interval has advanced this question any nearer to a satisfactory solution now than it was then. Six years ago the conclusion was forced upon me that arguments and suggestions on the subject of architectural competitions had reached very much the same position in the history of the world as puns, namely, in this: That they had all been made, and I do not think circumstances have changed since then sufficiently to make discussion of this subject more profitable than heretofore.

I would like to remind you that the whole subject of competitions, in almost the same aspects and involving the same dilemmas, the same difficulties, the same differences of opinion, has beset our profession like an incubus, and has provoked lengthy discussions, protracted correspondence in the professional journals, special commissions, sworn fraternities and self-denying brotherhoods continuously for nearly one hundred years. I can assure any one of you who cares to refer to the records which will be found within the walls of this building, that he will be truly amazed at the huge amount of energy and mental activity in arguments, research and classification of facts, which has been brought to bear on this subject; and, I may add, by some of the most conspicuous and able men of their day; and yet, although in the particular of professional assessors, promoters of competitions have fallen partially in line with our views, the main question remains no nearer solution, and the confusion in the conduct of competitions is perhaps as great as it ever was.

I find that the subject of competitions has been prominently brought before us here or at the Institute or elsewhere, during past years as follows:

In 1838 a committee was appointed by the Institute to consider this subject of competition, who, having thoroughly investigated it, seemed appalled by its difficulties, and concluded by publishing a report containing much "valuable information," but leaving the remedy very much as it was before in the hands of the profession. In 1850 the Architectural Association considered the question and drew up a report containing a code of regulations which it was suggested would meet the difficulties of the case. In 1857 Mr. George Morgan read a paper before the Institute upon this subject, which led to a debate, in which every one agreed again that something ought to be done. In or about 1860 the "Architectural Alliance" took steps to draw up a form of circular suggesting terms of "General Conditions" which were sent to such Committees and Councils as showed symptoms of breaking out into competitions. In 1871, on the occasion of the General Congress of Architects, Professor Kerr read a valuable paper on the subject of the "Commercial Aspects of Competitions." Everyone agreed that something ought to be done. A special committee was again nominated and deputed by the congress to investigate the matter and report accordingly. In 1872 this report, together with a code of proposed regulations for the conduct of competitions, was read before the congress of that year, and the congress was, with one exception, unanimous in agreeing that something ought to be done. The exception was Sir Edmund Beckett, who made a very able and interesting speech in the character, as architects may consider, of devil's advocate.

I may mention here that it is the recommendations made by this report, revised again in 1883 and in 1892, which to-day stand in the Institute Kalendar as "Suggestions for the Conduct of Architectural Competitions." In 1879 Mr. Thomas Porter read

his exhaustive paper on the subject, in which the best that has been said in demonstrating the suicidal folly of the profession in acquiescing in the competition system is there printed and set down. After hearing that paper, everybody was as completely satisfied as they had ever been that something ought to be done. It was a past-president of the Architectural Association, Mr. Cole A. Adams, who the next year did — or very nearly did — the necessary "something" by drawing up and circulating a memorial which was signed by thirteen hundred architects, who thereby bound themselves to take part in no competition save where a "professional adjudicator of established reputation was employed." This was presented at the Institute by the late George Edmund Street in 1881. Since then the subject has been again discussed, and there have been papers read since by Mr. Baggallay and others.

It will be noticed that a periodic recurrence of the subject of competitions is endemical with us — an affection of the spleen — and seems so essential a factor of the healthy existence of our profession that we may at least view this present outburst as an intimation of our healthy existence.

I am not going to restate in detail the injustices and stupidities which have been brought to the charge of those who organize competitions; they are vividly in the minds of all. I do, however, briefly propose to remind you how disastrous are the main principles which are involved in our system of competitions, because we are apt to reason from our own personal experiences, and personal ambitions and prejudices, and I think that it is this attitude which has produced and promulgated the confusion which makes impossible any chance of that clear view, and approach to unanimity, by which alone we could encounter and overcome the difficulties we discuss so exhaustively and with such futility. I will ask you to join me in my conviction that we shall never reach a solution until we can make our own immediate interests subservient to the wider interests of the profession at large. I will then ask you to let me suggest to you wherein the root of our trouble lies, and to state what I believe to be the only solution which will ever be possible until we are a closed profession, and registered, and placed under compunction to obey the rules which are made for us.

(To be continued.)

OFFICE PRACTICE REGARDING HOURS AND VACATIONS.*

BY NORMAND S. PATTON, ARCHITECT.

THE employes of our office petitioned recently for an extension of the Saturday half-holiday, which we have been giving during the summer season, to continue the whole of the year, and, upon making inquiries from a number of architects as to their custom, and finding it is quite general to give the half-holiday for the whole year, we granted the request of our employes, and anticipate that this additional leisure time will be as much appreciated by the members of the firm as by our assistants. It then occurred to me that it might be of interest to this association to know what is the general custom in regard to office hours, holidays and vacations, and therefore sent inquiries to a number of architects, and have replies from nineteen offices, which are sufficiently representative of the profession to indicate the general custom.

Three offices have a seven-hour day; six have seven and one-half hours, and eleven have eight hours; more than one-half, therefore, having eight hours as their working time.

Two offices begin work at 8 o'clock, one office at 8:15, twelve offices at 8:30 and three offices at 9.

One office has no set time for beginning work, the employes being expected to work eight hours, and those who come early leave early and those who come later stay until their eight hours are completed; the architect claiming a certain convenience in this for a small office, though, of course, it would be destructive to discipline in a large office.

The hours for closing are divided about equally between five o'clock and half-past five. There is an allowance of one hour for lunch in nearly every case.

In regard to Saturday half-holidays, six offices give such holidays during the summer months, twelve offices during the whole year and one office closes at 3 P.M. on Saturday, as I understand, for the whole year.

In regard to vacations, the custom seems to be universal to allow two weeks' vacation with pay to all employes who have been in the office a year or more, but not to those who have worked for a shorter time. It would seem that there ought to be a general uniformity of practice in all architects' offices in one city in regard to the matter of office hours and holidays and vacations. Apparently in Chicago the two weeks' vacation to permanent employes is generally recognized, and the Saturday half-holiday, which has been coming to be recognized more and more in the community, will doubtless be extended to take in the whole year by all architects, when they learn that the majority of offices are already granting that privilege.

In the matter of office hours, the preponderance is decidedly on the side of an eight-hour day, although there are enough offices that work for a shorter time to present a decided lack of uniformity. This is a matter which might be well discussed by this association, and perhaps a uniform custom could be brought about.

There are other matters of business management of our offices which could be taken up with advantage, as, for example, the question of overtime — as to the policy of working evenings, and whether there should be extra pay for such overtime. My own opinion on this point is that overtime should be avoided whenever possible, and that in most instances this can be done by the exercise of foresight. To work evenings for any length of time will certainly exhaust the energies and render the daywork less efficient, so that the gain is comparatively small and not in proportion to the additional effort, and that better results can be secured by urging every one to extra exertion during the regular office hours, at the time when there is a rush of business, and supplementing by additional help; and that in the case of permanent employes there should not be extra pay for overtime. If every one knows that in case the work is allowed to drag along and is not done on time they must stay and work at night, it will be a stimulus to each one to finish his work during the day and thus avoid the need of overtime; and when such an effort is insufficient, then the working force should be increased during the day, rather than to overwork by the addition of extra hours.

This brings up a point — that we often find it difficult to get extra help when we need it and would be glad to pay for it, and thus are forced to overwork ourselves and our employes. There should be some bureau of intelligence to supply draftsmen on short notice. I have recently learned of such a bureau, namely, the Engineering Agency, in the Monadnock block, but this agency limits its work to supplying men for permanent positions. Now, probably the most frequent use that an architect would have of such an agency is to get one or two men to do tracing for perhaps not more than a week, and the fees charged by this agency are higher than one could afford to pay for positions lasting only a week. It seems to me that it would very properly be one of the operations of this association to have a bureau of information for architects' offices, and if our secretary is willing to undertake such work, I am certain a fee could be established that would reimburse him for the necessary expenditure of time. The object of this association is to help its members in every way possible, and it would certainly be a great assistance to our profession to know where we can send on short notice and get extra help. At the same time, such a bureau of information would be of great benefit to draftsmen.* One of the advantages of locating an architect's office in a large city is the facility with which skilled assistants can be found, and we could still further increase that advantage by such a bureau of information. If this work should be taken up by the association, its benefits would properly be limited to members of the association and thereby increase the value of membership.

*Paper read and discussed before the Chicago Architects' Business Association and the Illinois Chapter, A. I. A., April 14, 1903.

COMBUSTION.†

BY MORRIS R. EBERSOLE.

THE fire in a boiler grate is maintained fast or slow, according to the amount of air (or oxygen) passing, not only over, but *through* it. The more oxygen the red coals come in contact with, the more complete is the combustion, and the higher the corresponding temperature. To illustrate: The most efficient lamp-burners to-day are those in which the wick is so made as to offer the largest surface of flame to the incoming air (or oxygen). They are generally made circular with an air duct coming up through the center as well as outside, so that the circle of flame is constantly and completely surrounded by a current of air drawn in by the draft created by the lamp chimney. If the lamp is turned up so that the additional oil exposed produces an amount of vapor which in burning overbalances the amount of oxygen admitted necessary to completely burn it, it "smokes"; that is, the kerosene vapor is only partially burned, and soot or unburned carbon pours out of the chimney.

If the draft is not strong enough, or the lamp is turned very low, the *vapor* escapes unburned, noticed by its disagreeable odor. If the draft were strong enough and properly proportioned, enough air might be let in to produce an almost colorless, non-luminous flame, a result of perfect combustion.

Exactly so with the relation of the chimney draft to the boiler fire. It is quite as delicate as the relation of the lamp light to the lamp chimney, and at the same time its results are of far greater importance.

The area and height of the chimney must be proportionate to the area of the grate and size of boiler to be erected, a point the heating engineer or architect must calculate with precision, and the householder and heating contractor must insist on.

The flue responds in efficiency to the area of its *smallest* cross section. If, for any reason, known or unknown, it is constricted, the area of this strictured part determines the efficiency of the flue. This may often be caused by the usual ornamental capstone, the openings of which are much smaller than the area of the chimney proper. A fireplace or closet may have been built in front of a chimney at some point, thus reducing the size of the flue at that point. An old brick or some mortar may have

* Ever since the establishment of the journal, twenty years ago, the office of The Inland Architect has given its services voluntarily as an "intelligence office" for draftsmen, though without advertising the fact or using any special means for calling it to the attention of architects and draftsmen.

† From *The Boiler Magazine,* Kellogg-Mackay-Cameron Company, Chicago.

become dislodged. The smokepipe from the boiler may project into the flue too far, or the chimney may not be straight as it should be, and consequently contracted at some point in the bend or angle.

A leaky chimney is also one to be condemned. All openings, other than the one to which the boiler is connected, should be closed up air-tight. In old chimneys, the mortar may fall away and expose cracks between the bricks, thus spoiling the draft not only by the admittance of air, but on account of its rough surface, which in the case of a light draft may become of some serious consequence in resisting the upward currents of air by friction against it.

The cheapest shapes of chimneys to build are the rectangular or square, and most chimneys for residences are of these shapes, although it is known that round flues are the best shapes for general use. The aim in selecting a cross-sectional shape being to reduce the friction of the ascending smoke and gases as far as possible.

Another point probably not fully appreciated is the fact that the house may be so shut up by weather-strips, etc., that a proper inlet of air does not take place, either for proper ventilation or to supply the necessary air for the draft of the chimney. Now, draft, when the chimney has become warmed up, depends upon the unbalanced pressure of the column of heated gases against the column of outside air which is heavier.

If the pressure of this outside column is shut off, entirely or partially, by shutting up the rooms tightly, there will necessarily result a decrease in the chimney draft. Again, an inside flue is much better from any engineering standpoint than one outside of the building and exposed to the elements. It is less apt to leak, and is more efficient because it gets warmer and stays so longer.

Some chimneys smoke because they form the shortest channel by which the air can enter the house to supply the draft to a higher chimney.*

In about one-third of the average private dwellings, the flues are so carelessly finished, or so much out of proportion to the work they are expected to do, that it is almost impossible to get gilt-edged results from heating apparatus connected with them without a thorough investigation along the lines we have attempted to point out.

PAINTS IN ARCHITECTURE.

THE NEW FRENCH PAINT LAW.

THE paint trade all over the world has been deeply interested in the movement of the French government looking to the substitution of zinc white for white lead in the painting of structures. In a voluminous report which preceded the introduction into the Chamber of Deputies of the proposed law, a mass of testimony and opinion is presented which argues overwhelmingly in support of the government's position.

The text of the measure is as follows:

PROJECT OF LAW.

The President of the French Republic decrees:

The project of law, of which the tenor is as follows, will be presented to the Chamber of Deputies by the Minister of Commerce, Industry, Posts and Telegraphs, who is charged with the duty of explaining its objects and supporting it in debate:

ARTICLE I.

In workshops, workrooms, building under construction or undergoing repair, and generally in all working quarters where the painting of structures is carried on, the foremen, directors or managers are required, independently of the measures prescribed, by virtue of the law of June 12, 1893, concerning the health and safety of workmen, to conform to the following provisions:

ARTICLE II.

After the expiration of one year from the promulgation of the present law, the use of white lead and of litharged linseed oil (oil containing lead dryers) shall be forbidden in all work of priming, filling and coating.

ARTICLE III.

After the expiration of three years from the same date, the interdict cited in the foregoing article shall extend to all work of painting, of whatever character, executed on the interior of structures. By administrative decree issued on advice of the Consultive Committee of Arts and Manufactures and the Commission of Industrial Hygiene appointed by the Minister of Commerce, this interdiction may be extended to include work done on the exterior of structures.

The total or partial interdiction of other products having a lead base used in the industry of structure painting may be in the same manner promulgated by a ruling of the public administration, issued in the same manner.

ARTICLE IV.

The authority to use white lead or other products with a lead base may, by modification of the preceding commands, be accorded in exceptional cases by the Minister of Commerce, on the recommendation of the Consultive Committee on Arts and Manufactures in each particular case.

ARTICLE V.

The inspectors of labor are charged to insure the execution of the present law. For this purpose they have the right of entry in all the classes of establishments specified in Article I. However, in cases where the work of painting is being executed in inhabited quarters, the inspectors may not enter until authorized to do so by the occupants.

ARTICLE VI.

Articles V, VII, paragraphs 1, 3, 9 and 12, of the law of June 12, 1893, are applicable in establishing infractions of the present law, as well as in correcting them.

Given at Paris, October 28, 1902.

By the President of the Republic.

(Signed) EMILE LOUBET.

The Minister of Commerce, Industry, Posts and Telegraphs.

(Signed) GEORGES TROUILLOT.

CHARLES JOURDAIN.

* Chimney Design and Theory.— *Christie.*

ASSOCIATION NOTES.

NEW JERSEY CHAPTER, A. I. A., EXHIBITION.

The first exhibition under the auspices of the New Jersey Chapter of the American Institute of Architects, which was held at the Newark free library in March, was an interesting one and consisted of 250 hangings, showing buildings of all descriptions, including both interiors and exteriors. Seventy different architects entered exhibits. Eight competitive drawings were submitted by architectural assistants in the competition for three prizes offered by the Chapter, $20, $10 and $5. The winner of the first prize was John A. Wayferling, Jr., of Newark; the second prize was won by James L. Havill, of Montclair, and the third by Ernest Fougner, of Red Bank. The problem was a doorway in the Roman order.

MOSAICS.

ARCHITECT JOHN GALEN HOWARD has been appointed professor of architecture and head of the new department in architecture established by the University of California.

HUGH LAMB, the architect, died April 3, at his home in Arlington avenue, East Orange, New Jersey, of typhoid fever. He was born in Scotland, fifty years ago, and came to America when twelve years of age.

NEW JERSEY architects are protesting against a bill calling for the appointment of a State architect. The State Chapter pronounces the bill inimical to the interests of the State and to the profession.

RICHARD MARTIN, JR., an architect of Portland, Oregon, writes that he has been burned out and lost everything. He has located his new offices at 115 Commercial building, and desires, among other things, a new set of catalogues.

THE Smith family has been represented in Detroit by three generations of architects. Starting with Sheldon Smith in 1858, succeeded by his son, Mortimer L., whose sons, Frederick L. and Sheldon O., succeeded him, and now the firm is represented by Sheldon O. Smith.

GEORGE PALLISER, who for thirty years had been a practicing architect, died April 3, at his home in Dobbs Ferry, in his fifty-fourth year. He was born in England. Mr. Palliser is said to have been the first architect to issue books of plans in this country. He was the author of a number of books on architecture, and many thousands of residences, according to his friends, were built in New York and vicinity from his plans. Several members of his family were associated with him in business.

MESSRS. BRUCE & MORGAN, architects, of Atlanta, Georgia, beg to announce to their friends and the public that Mr. John Robert Dillon, recently of Chicago, has become associated with them and that they have organized under the name of Bruce, Morgan & Dillon, incorporated, and the new organization will continue the practice of architecture in the offices in the Prudential building occupied by Messrs. Bruce & Morgan. The many friends of Mr. Dillon, in Chicago and elsewhere, will congratulate him and also the firm that has secured so valuable an addition to its number.

OUR ILLUSTRATIONS.

Horn's Hotel, St. Louis, Weber & Groves, architects.

Selections from Chicago Architectural Club exhibition of 1903.

"The Maryland," Kansas City, Missouri, Albert Turney, architect.

First National Bank building, Chicago, D. H. Burnham & Co., architects.

Building for Norvell-Shapleigh Hardware Company, St. Louis, Missouri, Weber & Groves, architects.

Photogravure Plate: Residence of Mr. Friend, Milwaukee, Wisconsin, Elmer Grey, architect.

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Bryn Mawr School, Pennsylvania.

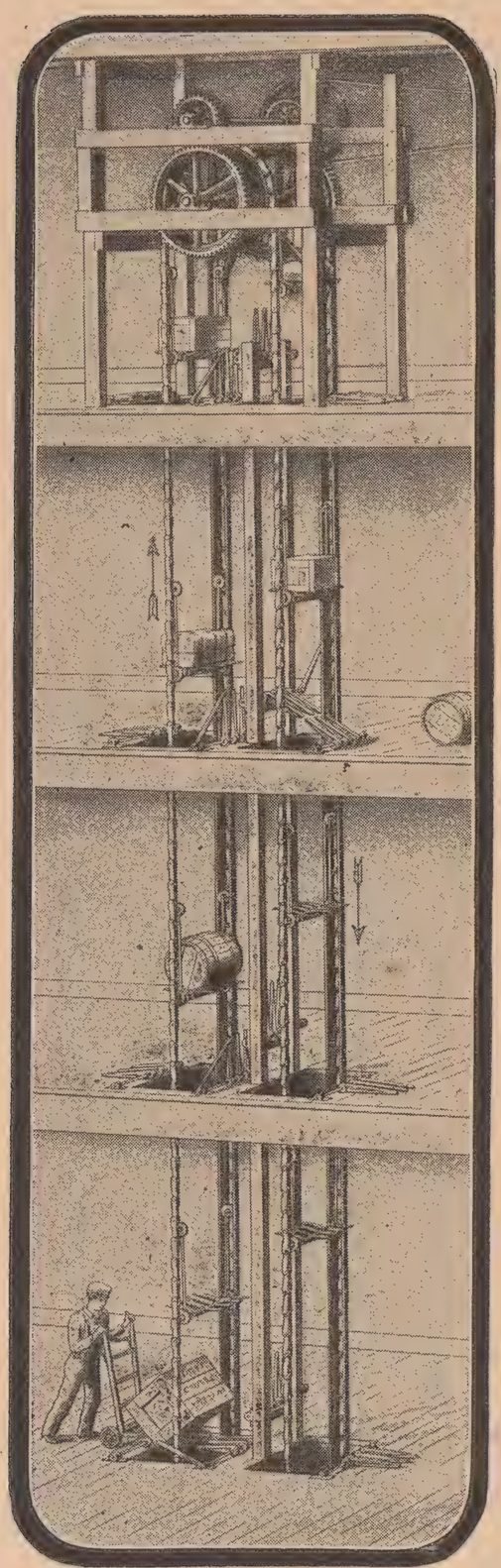
Residence, Chicago, Frost & Granger, architects.

Residence, Milwaukee, Wisconsin, Elmer Grey, architect.

Methodist Home for the Aged, Philadelphia, Pennsylvania.

Leonori Apartment building, New York, Buckman & Fox, architects.

Residence of Architect Alexander C. Eschweiler, Milwaukee, Wisconsin.



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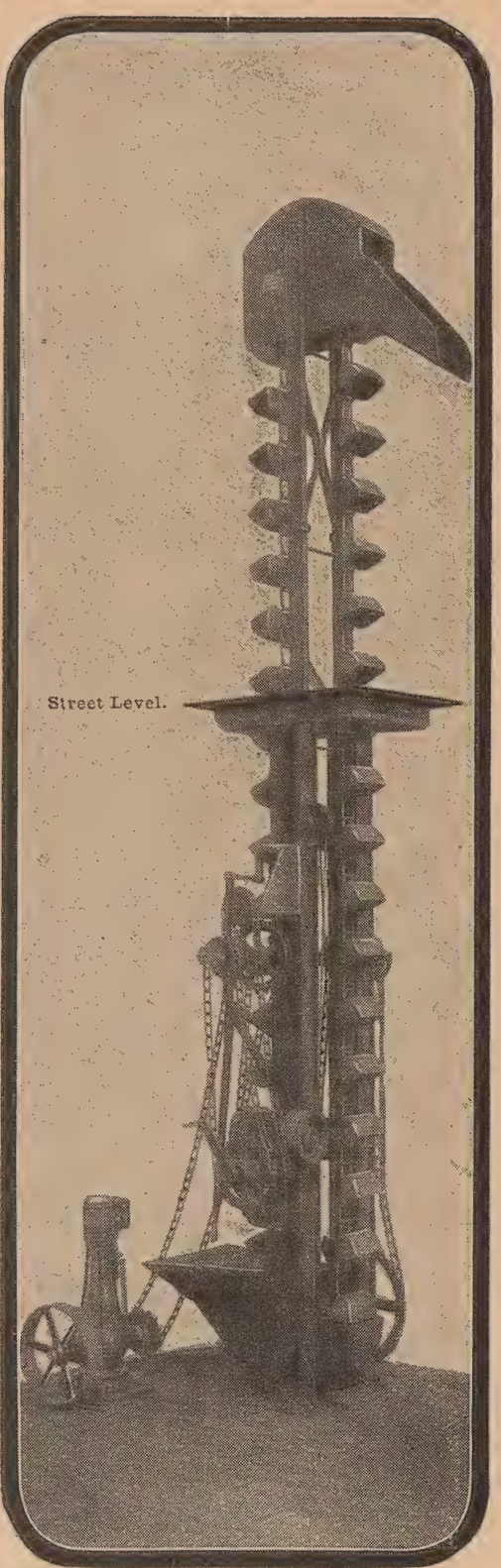

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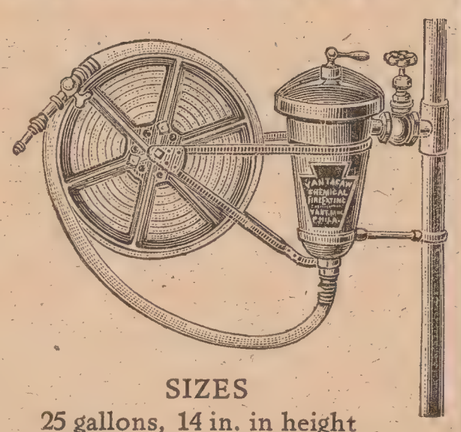

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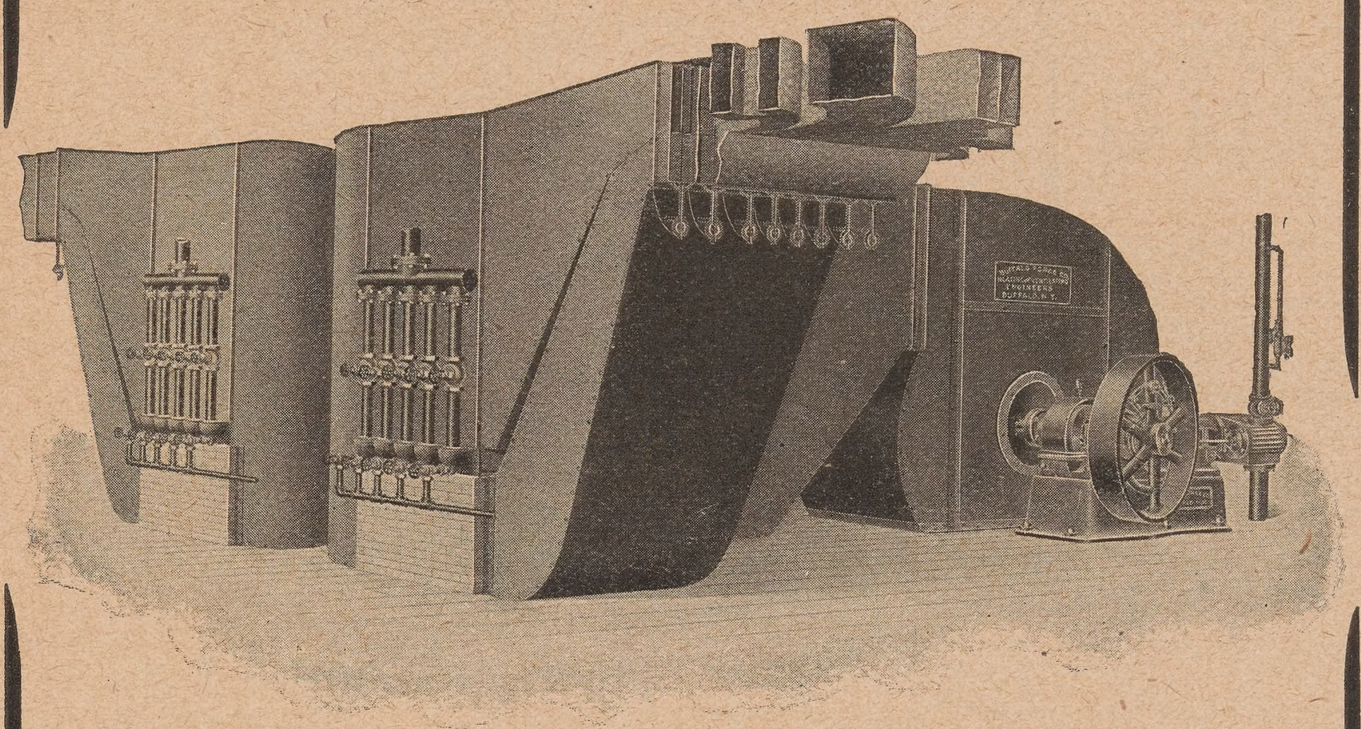

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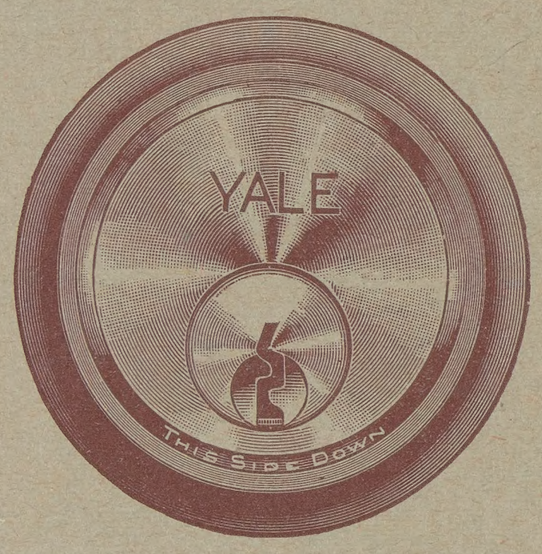

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